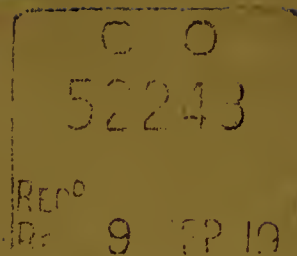


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**JAMAICA**



# ANNUAL REPORT

OF THE

## SUPERINTENDING MEDICAL OFFICER,

*Together with the Reports on the following Departments of the Medical Service of the Island, viz :*

THE PUBLIC HOSPITAL

THE LUNATIC ASYLUM

THE LYING-IN HOSPITAL

THE LEPERS' HOME

FOR

THE YEAR ENDED 31<sup>ST</sup> MARCH, 1918.

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Ordered by His Excellency the Governor to be Printed.

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JAMAICA  
GOVERNMENT PRINTING OFFICE, KINGSTON.

1919.

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*Annual Report of the  
Medical Department of  
Jamaica for 1917-1918.*

With the compliments of the Under-Secretary  
of State for the Colonies.



Colonial Office, Downing Street,

*26<sup>th</sup> September 1919.*

1919



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## ISLAND MEDICAL DEPARTMENT.

### Report for the year ended 31st March, 1918

Island Medical Office, Kingston, 30th June, 1918.

Sir,

I have the honour to forward for the information of His Excellency the Governor the accompanying Returns and Reports including the Annual Report of the Government Bacteriologist embracing the period for the year which began on the 1st April, 1917 and ended on 31st March, 1918.

2. *Appointments.*—Dr. S. C. DePass was appointed Dental Surgeon to the Public Hospital as from 1.4.17 for the year, unless any unforeseen circumstances should arise.

Dr. J. A. Barnes was appointed Acting Supernumerary Medical Officer during the Governor's pleasure at the Public Hospital, Kingston on 1.11.17.

Miss Ruth Cartwright was appointed Matron of the Public Hospital, Kingston on 16.2.17 and arrived in the Island and took up her duties on 13.8.17.

Dr. F. G. Grossett was appointed acting District Medical Officer, Port Antonio as from 18.5.17.

Dr. A. D. C. Rob was appointed acting District Medical Officer Claremont on 17.8.17 and was succeeded on 23.10.17 by Dr. F. T. Auden.

Dr. J. A. Watson was appointed Acting District Medical Officer Ulster Spring on 10.5.18.

Dr. C. E. Pengelley was appointed Acting District Medical Officer, Christiana on 24.5.17.

Dr. H. H. Blair was appointed Acting District Medical Officer, Spanish Town on 15.7.17.

Dr. J. H. Peck was appointed Acting Medical Attendant Leper Asylum and Public General Hospital, Spanish Town on 15.7.17.

3. *Resignations.*—Dr. O. V. Marsh resigned his acting appointment as Supernumerary Medical Officer at the Public Hospital on 31.10.17.

Dr. G. E. Cheyne resigned his acting appointment as District Medical Officer, Claremont on 17.8.17.

Dr. C. R. White resigned his appointment as Acting Medical Attendant Spanish Town Public General Hospital on 15.7.17.



4. *Leave of absence.*—Vacation leave has for some years been forbidden unless on Medical certificate. Recently an order has been given allowing one month's vacation leave without Medical certificate. Medical Certificates are often a pure matter of opinion and, not rarely, given out of friendship or for a consideration.

As Superintending Medical Officer I cannot but represent the fact in the interest of the Government Staff that if Government Officers require vacation leave it is better that such leave should be taken at a time when they are not too ill to enjoy it but that it should be taken as a tonic in order that they may be able to carry on their duties with renewed energy instead of at a time when they have to spend their days trying to make up lost health, or in fact at a time when they cannot really enjoy a holiday.

It appears to me to be a wise policy to allow officials to take their vacation at the usual time especially when it costs the Government nothing thus keeping their minds and bodies in a condition to fulfil their official duties with energy instead of feeling tired and worn out and unable to get the same amount of work into the same amount of time due to having become slack for want of relaxation.

The following Officers were granted leave of absence.

Name.	Period of Absence.	Period during which absent.	Acting Officer.
Dr. J. E. Ker, S.M.O.	3/5 months	27.12.17-14.1.18	Dr. Lawson Gifford
Dr. C. A. H. Thomson	3 months	9.7.17-8.10.17	Dr. T. R. Matthews
Dr. A. E. C. Myers	7 days	14.7.17-20.7.17	Dr. D. J. Phillips
Dr. R. G. Sherlock	14 days	21.12.17-3.1.18	Dr. Noel Sanford
Dr. W. A. S. Browne	2½ Months	13.10.17-31.12.17	Dr. E. E. Murray
Dr. E. D. Gideon	5 weeks	22.1.18-28.2.18	Dr. J. A. Barnes
Dr. L. M. Clark	1 month	2.3.18-2.4.18	Dr. J. H. Abrahams
Dr. E. V. Smith	1 month	16.3.18-15.4.18	Dr. J. A. Watson
Dr. E. R. C. Earle	3 months	28.3.18-	Dr. W. G. Farquharson
Mr. H. A. Hamilton	15 days	1.9.17-15.9.17	Mr. M. J. Thomas
Mr. M. J. Thomas	14 days	17.12.17-31.12.17	Mr. H. A. Hamilton

5. *Shortage of Permanent Medical Officers.*—At the moment of going to Press there are fourteen Medical Officers doing War work, two of whom are employed with the Military Authorities in Jamaica.

There is also one temporary unpaid Assistant District Medical Officer at the front.

There are three vacancies due to deaths (Buff Bay, Mandeville, Public Hospital Kingston.)

There are three vacancies due to resignations (Manchioneal, Black River and Ulster Spring).

There is one vacancy due to transfer (Gordon Town).

One Officer is now on sick leave (Spanish Town).

The post of Assistant Bacteriologist has been allowed to lapse this year as there was necessity for retrenchment and I was directed not to allow the Estimate sent in for the year 1918-19 to exceed those of the year 1917-18 consequently as drugs have risen in price and must be obtained other items had to be cut down and this is an appointment that I more regret having to part with than almost any other. Consequently there are in reality 24 shortages in the Department due to the absence of permanent Officers and occasionally much anxiety is caused me by verbal reports and anonymous letters concerning some of the acting Officers.

It would appear that few people realize the difficulties that have often arisen; at the same time one felt that in order to serve the Empire local risks had to be taken—in one case at least with unfortunate results.

The Medical Officers now serving with the War Department either overseas or in Jamaica are the following:

Dr. W. E. H. Beard, D.M.O., Grange Hill.  
 Dr. A. G. Curphey, D.M.O., Moneague  
 Dr. C. R. Edwards, D.M.O., Lower St. Andrew.  
 Dr. Cyril Gideon, D.M.O., Gayle.  
 Dr. George Hargreaves, D.M.O., Cave Valley.  
 Dr. H. Johnston, D.M.O., Adelphi.  
 Dr. H. Joslen, D.M.O., Annotto Bay.  
 Dr. J. G. Moseley, Assistant D.M.O., Port Antonio.  
 Dr. C. A. Moseley, D.M.O., Port Antonio.  
 Dr. T. F. Shackleton, Lunatic Asylum.  
 Dr. Claude Sharp, D.M.O., May Pen.  
 Dr. R. S. Turton is employed as Medical Officer with the R.A.M.C.  
 Dr. W. G. Farquharson is employed with the contingent.

It will be noted that father and son in the case of Dr. C. A. Moseley and Dr. J. G. Moseley are both at the front.

During the year the greater number of the Medical Officers of the Department have examined discharged contingent and B.W.I. Regiment men and have made endless reports on their condition when applying for assistance they have also examined numerous dependents and sent in reports on their condition when applying for assistance and by far the greater part of these examinations have been made free of cost although some of those to be examined have lived at some distances from the D.M.O. and in rather out of the way places.

Only by very few Medical Officers has a fee been asked for,

## 7. Return of Expenditure of Island Medical Department, 1917-18

	Personal Emoluments.	Other Charges.	Gross Expenditure.	Amount of Dues Collected.	Actual Ex- penditure after deducting amount passed to credit of Hospital.	Amounts of Grants Estimated.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Head Office ..	2,695 5 4	8,243 15 0	10,939 0 4	2,698 18 0	8,240 2 4	9,769 4 10
District Medical Officers ..	5,730 1 8	..	5,730 1 8	..	5,730 1 8	5,800 0 0
Supernumerary Medical Officers ..	200 10 9	..	200 10 9	..	200 10 9	400 0 0
Temporary Out-stations and Dispensary appointments ..	147 3 7	..	147 3 7	..	147 3 7	150 0 0
Public General Hospitals—						
Morant Bay ..	220 10 6	395 14 10	616 5 4	10 9 10	605 15 6	572 17 10
Hordley ..	296 16 8	801 14 4½	1,098 11 0¾	12 16 0	1,085 15 0½	1,120 16 0
Port Antonio ..	414 2 0	1,990 5 2	2,404 7 2	12 3 6	2,392 3 8	2,130 17 0
Buff Bay ..	587 13 10	1,819 15 8	2,407 9 6	37 7 2	2,370 2 4	2,448 9 0
Annotto Bay ..	471 15 10	1,569 6 9	2,041 2 7	17 18 4	2,023 4 3	2,475 15 6
Port Maria ..	447 2 0	1,084 11 3	1,531 13 3	6 10 6	1,525 2 9	1,705 4 0
St. Ann's Bay ..	257 7 10	378 0 7	635 8 5	9 1 10	626 6 7	662 7 6
Cave Valley ..	90 16 6	184 11 11	275 8 5	13 3 0	262 5 5	289 16 0
Falmouth ..	232 8 0	368 13 10	601 1 10	2 18 9	598 3 1	621 13 0
Ulster Spring ..	93 2 5	93 12 0¾	186 14 5¾	6 6 0	180 8 5¾	221 16 0
Montego Bay ..	279 18 9	580 13 7	860 12 4	2 5 0	858 7 4	929 9 2
Lucea ..	258 9 0	375 18 0	634 7 0	8 11 10	625 15 2	608 14 2
Sav.-la-Mar ..	553 2 0	1,632 2 11	2,185 4 11	23 15 6	2,161 9 5	2,141 13 0
Black River ..	260 12 3	620 9 1	881 1 4	56 15 11	824 5 5	773 8 6
Mandeville ..	259 11 9	888 17 11	848 9 8	4 14 9	843 14 11	781 10 0
Chapelton ..	306 13 6	601 13 7	908 7 1	2 19 0	905 8 1	839 4 0
Lionel Town ..	381 1 6	1,230 19 0½	1,612 0 6½	5 17 3	1,606 3 3½	1,199 7 4
Spanish Town ..	447 5 11	1,103 2 11	1,550 8 10	14 15 5	1,535 13 5	1,603 1 0
Linstead ..	262 14 3	562 0 5½	824 14 8½	7 13 6	817 1 2½	815 13 4
Yaws Fees ..	3,203 6 10	1,623 1 0	4,826 7 10	..	4,826 7 10	4,946 12 0
Investigation of Vomiting Sickness ..	..	54 17 6	54 17 6	..	54 17 6	50 0 0
Drugs and Poisons Law ..	15 1 6	..	15 1 6	37 0 0	..	17 0 0
Medical Attendance on Immi- grants ..	458 3 3	..	458 3 3	..	458 3 3	799 12 0
Public Hospital ..	5,215 19 8	8,326 11 2	13,542 10 10	1,539 18 9	12,002 12 1	12,264 4 10
Lunatic Asylum ..	7,054 13 11	21,361 16 4¾	28,416 10 3¾	12,567 0 7¾	15,849 9 8	24,955 1 7
Lepers' Home ..	978 9 11	1,875 1 1	2,853 11 0	..	2,853 11 0	2,830 0 0
Victoria Jubilee Hospital ..	597 15 0	742 19 9	1,340 14 9	529 19 0	810 15 9	1,456 2 3
Vaccination Fees ..	1,533 16 5	..	1,533 16 5	..	1,533 16 5	1,500 0 0
Medical Officer, General Peni- tentiary ..	270 8 4	..	270 8 4	..	270 8 4	250 0 0
Health Officer, Port Royal ..	414 2 6	..	414 2 6	..	414 2 6	450 0 0
Quarantine ..	311 7 7	294 8 2	605 15 9	245 7 3	360 8 6	797 5 8
Central Board of Health ..	..	6 4 0	6 4 0	..	6 4 0	25 0 0
Medical Council ..	14 14 0	..	14 14 0	..	14 14 0	20 0 0
Venereal Diseases ..	406 19 10	963 0 0	1,369 19 10	..	1,369 19 10	4,671 0 0
	35,369 4 7	59,473 18 0	94,843 2 7	17,874 6 8¾	76,990 14 4¼	93,092 15 6

## 8. Vaccination.—The following are the results of the last seven years including the year under review.

Year.	Success- ful.	Not Suc- cessful.	Did not return.	D.M.O.	Constables.	Registrars.	Totals.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
1911-12 ..	19,784	2,933	663	757 7 0	215 10 5	251 17 5	1,224 14 10
1912-13 ..	26,103	393	343	649 14 8	1,034 3 6	248 6 11	1,932 5 1
1913-14 ..	29,219	1,207	591	1,390 5 0	370 5 6	216 8 10	1,976 19 4
1914-15 ..	21,575	1,249	549	1,183 11 0	322 15 2	212 9 6	1,718 15 8
1915-16 ..	26,391	701	661	1,001 5 0	266 0 9	280 8 5	1,547 14 2
1916-17 ..	25,482	1,306	787	1,142 19 0	303 5 2	257 9 7	1,703 13 9
1917-18 ..	20,971	667	622	1,026 15 0	276 13 11	230 7 6	1,533 16 5

The payments made are as follows:—

One shilling for each successful case to the D.M.O. Three-pence for every successful case brought out by the District constable. Twopence to the Registrar for every birth notified.

The above is the return for the last and some previous years.

The children of the Island are protected against small pox, but very little re-vaccination takes place, so frequently one may say that the adult population are very poorly protected if at all.



9. Statement of amounts received for Hospital Fees from Paying patients (other than constables) at the Public General Hospitals outside Kingston, during the year 1917-18.

Hospital.	Amount.
Morant Bay	9 14 6
Hordley	11 10 0
Port Antonio	12 0 0
Buff Bay	33 18 6
Annotto Bay	12 11 8
Port Maria	6 19 6
St. Anns Bay	8 5 0
Cave Valley	13 3 0
Falmouth	1 19 6
Ulster Spring	6 5 0
Montego Bay	1 17 0
Lucea	6 15 0
Sav.-la-Mar	18 17 0
Black River	56 19 3
Mandeville	4 1 0
Chapelton	2 15 0
Lionel Town	4 8 0
Spanish Town	10 10 4
Linstead	7 12 0
	<hr/> £230 1 3 <hr/>

#### DRUGS.

##### 10—Pre-War and present prices of Drugs.

	Pre-War Prices.	Present prices (approximately.)
Asperin	2/ per lb	13/9 per lb
Atropine	23/6 per oz.	120/ per oz.
Bismuth Carb	8/6 per lb	12/11 per oz.
Boric Acid	30/6 per cwt.	64/ per cwt
Calomel	2/8 per lb	6/8 per lb
Carbolic Acid	5 pence per lb	1/8 per lb
Castor Oil	£30 per ton	£88 per ton
Cocaine Hydroch	4/6 per oz.	45/ per oz.
Cod Liver oil	75/ per barrel	450/ per barrel
Corrosive Sublimate	2/2 per lb	6/8 pr lb
Guaiacol Carbonate	7/ per lb	130/ per lb
Morphine Hydrochlor	9/6 per oz.	13/6 per oz.
Phenacetine	2/9 per lb	40/ per lb
Phenazone	6/6 per lb	55/ per lb
Pot Bromide	1/6½ per lb	7/ per lb
Pot Chloride	4d. per lb	2/6 per lb
Pot Permanganate	4½ (approx.) lb	14/6 per lb
Quinine sulphate	1/1 per oz	3/4 per oz.
Salicylic Acid	1/ per lb	6/6 per lb
Salol	1/10 per lb	10/6 per lb
Sod Salicyl	1/3 per lb	7/ per lb
Sulphonal	9/ per lb	44/ per lb
Thymol	15/ per lb	50/ per lb

In making up the Estimates for the year 1918-19 it was found necessary to increase the estimate for drugs very greatly the increase being due to the extraordinary rise in prices. My estimates were however returned to me with the order to reduce my total estimate to the level of the previous year. Consequently I had to reduce other items in order that sufficient funds might be provided wherewith to supply the Department with drugs without which it cannot carry on. Even now it will be difficult to make ends meet.

Requests have been made by several Medical Officers asking me to sell or lend them drugs (owing to their inability to keep up a constant supply themselves for private work) and these applications have been forwarded to the Government in view of the fact that my instructions are not to sell drugs to practitioners.

Quinine is the drug that seems to be most in demand and which it appears is the most difficult to obtain as there seems to be some difficulty in getting it from America.

During the past year the supply of drugs ran very low in fact in many cases ran out. The sum of money allowed on the Estimates was not nearly sufficient to cover the drugs applied for by the sum of £2,439.

The schedule hereunder will show, during six years from 1912-13 to 1917-18 the value of drugs given out of the Medical Store.

A. exceeded the intake by no less a sum than £7,539. A good reserve stock had been laid in during Sir Sydney Oliver's tenure of Office.

## SCHEDULE.

Vote on Estimates.	Spent on drugs.	Value of drugs. given out.	Submarined or not arrived.	Sold to Parochial Boards and Institutions.
1912-13 ..	4,500	£5,002	£5,313	£1,530
1913-14 ..	5,000	5,204	5,762	1,574
1914-15 ..	5,224	5,442	5,938	1,591
1915-16 ..	4,500	3,862	5,490	1,855
1916-17 ..	5,000	6,181	8,439	2,314
B. 1917-18	6,000	7,153	9,441	2,376
		32,844	40,383	

The greatest care has been taken in scrutinizing all requisitions for drugs sent up from the various Hospitals and almost every item has had to be cut down in order to ensure that care shall be taken in dispensing of medicines.

In the case of Parochial Boards however no such scrutiny is observed as some years ago one Parochial Board objected to any interference with its orders for drugs.

The difficulty in obtaining drugs and other necessities has been very great—for instance, thermometers ordered in the month of April, 1917 only arrived in the month of March, 1918.

Value of Drugs etc., issued to the various Institutions, etc., from the Island Medical Stores during the Financial year, 1917-18.

Value of	Drugs and sundries issued to the Public General Hospitals, Lepers Home and Medical Districts	
"	Stimulants issued to Public General Hospitals and Lepers Home	£4,754 17 4
"	Drugs etc., issued to Kingston Hospital	85 7 8
"	Drugs etc., issued to Jubilee Hospital	1,593 13 8
"	Stimulants issued to Jubilee Hospital	38 6 8
"	Drugs, etc., etc., issued to Lunatic Asylum	2 0 6
"	Stimulants issued to Lunatic Asylum	496 18 10
"	Drugs etc., issued to Prisons and Reformatories	8 18 2
"	Stimulants issued to Prisons and Reformatories	250 19 0
"	Drugs issued to Department of Agriculture	0 15 7
"	Drugs issued to Quarantine Station and Visiting Officers	7 12 6
"	Drugs issued to Schools Department	2 8 7
"	Drugs, etc., issued to Parochial Boards	69 15 3
"	Stimulants issued to Union Poorhouse	1,094 6 4
"	Drugs, etc., issued to Constabulary Department	86 11 8
"	Quinine in packets supplied to Post Office	109 14 9
"	Drugs and sundries sold	335 0 0
"	Lymph issued to District Medical Officers	86 16 9
"	Quinine issued to Estates	327 16 1
"	Drugs etc., issued to Government Laboratory	62 0 0
"	Drugs, etc., issued to Jamaica War Contingent	0 16 5
		26 9 1
		£9,441 4 6

## 11. REGISTRATION OF DEATHS.

Parish.	Total Deaths.	Deaths not medically certified.	Deaths under one year.	Deaths under 5 years.	Deaths from Akee Poisoning.	Deaths from Enteric Fever.
Kingston ..	1,887	329	416	608	6	74
Port Royal ..	27	..	6	18	..	..
St. Andrew ..	1,744	956	318	565	5	9
St. Thomas ..	1,241	915	276	515	—	19
Portland ..	1,413	1,058	336	560	4	14
St. Mary ..	1,753	1,300	439	741	1	12
St. Ann ..	1,514	1,266	371	562	8	5
Trelawny ..	1,049	848	256	454	25	1
St. James ..	1,090	846	274	433	8	3
Hanover ..	1,066	873	296	490	2	3
Westmoreland ..	1,673	1,318	421	706	..	12
St. Elizabeth ..	1,781	1,520	483	744	1	1
Manchester ..	1,589	1,333	289	561	11	4
Clarendon ..	2,270	1,961	513	981	5	7
St. Catherine ..	2,939	2,080	561	1,087	5	40
Whole Island ..	23,036	16,603	5,255	9,025	81	204



One has once more to call attention to the large number of deaths which have not been medically certified and attention has to be drawn to the possibility if not probability that had cheap medical attendance been available many of those who died might have had their lives saved. The number of persons who die in Jamaica without a Medical certificate as to cause of death is very great. Possibly the mileage charges may have something to do with this also the large amount of unlicensed practice now reported as being carried on by Dispensers and others.

The list given above shows the position. The very large number of deaths of children under one year and 5 years is a bad feature of the above schedule.

12. *Grants to Child Saving League*.—During the past year the Child Saving League for which £150 has been allowed on the Estimates has been doing a good work in Kingston.

One portion of the work consists of certain Centres where small children are fed and in connection with these is a Crèche where children are left by their mothers during the daytime in charge of a nurse. The £150 voted by the Legislative Council goes to paying two nurses.

The daily average of babies in the Crèche since its start was 11 and the highest number on any day has been 20.

The nurses also visit at the homes of the children.

The attendances of children for feeding during the year at the centres have been 2,514 and the visits made by the nurses at their homes were 1,224.

13. *Yaws*.—From the Reports sent in by the various District Medical Officers it is very evident that the above disease is extremely prevalent throughout the Island and it would appear that some of the District and Acting Medical Officers have forgotten the existence of Law 23 of 1910 which was passed during Sir Sydney Olivier's tenure of Office.

Section 5 gives a District Medical Officer the power of requiring:

1. any person suffering from Yaws to attend at a time and place.
2. any parent guardian or person in charge of a child suffering from Yaws to attend with such child at a time and place.

Section 6 gives the District Medical Officer the power of requiring such person.

(a) to present himself for inspection and treatment.

(b) to bring such child for inspection and treatment at such times and places as may appear necessary.

We thus have all the power necessary in order to enforce compulsory attendance and treatment but what is still required is the "finance" to cover the cost of what everyone admits is necessary namely—"The compulsory and continuous treatment of Yaws."

As soon as money is available and the Medical Department is allowed a free hand in the treatment of Yaws there should be no great difficulty in gradually abolishing it and making it a thing of the past just as is smallpox.

Until finance will allow of that the Disease must continue to spread as every case uncured in a district is a "focus" of infection leading perhaps to many new infections or to use a Biblical expression "A little leaven leaveneth the whole."

With regard to the extermination of Yaws, I estimate that £10,000 should be provided in the Estimates of next year, and would need to be repeated; and with such a sum one could continue the work commenced in certain parishes this year and clean up those parishes prior to extending the treatment to the remaining parishes.

14. *Venereal Disease*.—It gives me much pleasure to record the fact that, after urging the necessity for some long time past for the passing of a Law dealing with and providing for the control of these very serious diseases which have been so sadly neglected by the anglo-saxon race, it became my pleasant duty to introduce to the Legislative Council a Venereal diseases Law which was based on the recent English Law 7 and 8 Geo. 5 ch 21 V.D. Act 1917 and the Grenada Law a copy of which was forwarded to the late Governor by the Rt. Hon. the Secretary of State for the Colonies.

The Venereal Diseases Bill was read a first time in the Legislative Council but had not passed through the Committee stage on the second reading before the end of the financial year.

The points that one wishes to impress upon the Public and upon those who are suffering from Venereal disease are: that

1. One should try and prevent infection continuing from the earliest moment of infection if possible; while
2. Neglect of early and efficient treatment make subsequent treatment more difficult protracted and consequently more expensive.

3. Economically it is sound to spend money on efficient and early treatment and so save later on expenditure (whether in the shape of pensions or otherwise) on the treatment of chronic cases that have been neglected in the early stages of the disease and which so often lead to social wreckage and do so much towards filling our Hospitals, Poorhouses, and Lunatic Asylums.

The necessity for treatment from the earliest moment of infection is therefore obvious. It may here be mentioned that the Federal Government of Australia has decided to spend something like £25,000 a year for furthering facilities for diagnosis—it being estimated that full 16 per cent. of those in receipt of pensions have become invalids through the effects of inherited or acquired syphilis.

Treatment is just getting under weigh but bit by bit it will become more general. During the first three months of free treatment (October, November and December, 1917) the amount paid for free treatment by the Department was £18 19s. 4d., and for the second three months (Jany., Feby., and March, 1918) the bills paid amounted to £63 0s. 8d., The second three months showing a distinct increase.

Hitherto the trouble in the treatment of Venereal disease has been that patients will insist on considering themselves "cured" as soon as any inconvenience that may be felt or the external manifestations of whichever form of the disease that they may be infected with have disappeared and after that the disease is neglected only, in many cases, to appear later on in other and worse forms the patients being in a position to spread the disease without being aware of the fact.



The new Law provides for compulsory and continuous treatment and for a penalty for non-compliance with the orders of the Medical Officer under whose care they are.

Owing to the shortness of paper the reports of the Medical Officers have not been reproduced here but from the said reports one gathers:

1. That unless compulsion is enforced no possibility of keeping venereal disease within bounds can be hoped for;

2. That the peasantry and labouring classes regard these diseases as "very simple ailments" which are of small importance and in the case of the male population as being more or less a manifestation of manhood.

3. That cases of these diseases are commonly never seen by medical practitioners until far advanced or until complications have occurred at a period when treatment is not likely to be so satisfactory or cure so rapid as would have been the case had the patient been taken in hand at an early stage.

One point in the treatment of Venereal disease must be borne in mind and it is this that unless one is able to finance the "continuous" treatment of Venereal disease the Law must remain a dead letter; by financing the treatment I mean continuous and not spasmodic treatment.

Yaws still remains rampant on account of the absence of sufficient funds to carry on a "continuous" campaign against it and the same will happen in the case of Venereal disease unless the wherewithal is provided.

15. *General Sanitation.*—1. Judging by the reports of the District Medical Officers it is evident that very little in the way of new Sanitary works has been accomplished by the various Local Boards presumably due to the lack of money and the high cost of materials. This of course is to be regretted but it is very evident that "one cannot make bricks without straw" as the saying is.

2. With regard to the introduction of an efficient latrine system in the various towns and villages of the Island one has to record the fact that very little has been done in this matter and that the latrine systems of the towns and villages are generally unsatisfactory, and it is to be hoped that as soon as the International Health Board starts work in connection with Hookworm, the various Local Boards will enforce the provision of efficient and anti-Hookworm latrines throughout their parishes.

One frequently hears it said that, in spite of enforcing the installation of latrines on premises people will retain their old customs and use the bush.

That may be the case for a time but after a number of prosecutions have taken place people will learn to do what is right and if in the Schools children are instructed in cleanly habits it will be found that the rising generation will soon learn to use latrines and will not be satisfied unless they have them and the hookworm pest will become a thing of the past.

Port Maria has installed a bucket system and it will be noted that whereas Typhoid Fever was at one time prevalent in that village it has now practically disappeared.

3. The question of the unsatisfactory condition of the Latrine system of the Island raises the question of the necessity for having a Superintending Sanitary Inspector.

The position is as follows: The Central Board of Health is simply an Advisory Board with no power beyond calling upon the Governor to act and the Governor may or may not act at times he does at others he does not—in the latter case the Central Board has to sit tight and look on.—The necessity for a Superintending Inspector (Sanitary) with all the powers of a Health Officer is therefore apparent. Such Officer should be responsible to the Central Board and report to that Board for the Governor's information and also have the power to serve notices with regard to the carrying out of Sanitary improvements.

As, at present, there is no one to see that the various Sanitary Boards are carrying out the Law it is absolutely necessary, if improvement is to be made, that a Superintending Inspector should be appointed who will take the Law into his own hands and see that both the Law and the Bye-laws are enforced.

4. Regarding Water Supplies it may be said that the freedom from Yellow fever of the towns and villages on the coast is due principally to the number of water supplies now existing in those towns and villages and to the comparative absence of the cistern and water barrel that used to be so much in evidence. Sir Rupert Boyce when visiting the Island noticed this fact at once.

One village is sadly in need of a water supply by pipe and that is Stony Hill.

The Subject of a water supply for this village has been discussed and estimated for "ad nauseam" and up to the present no result has been arrived at in the matter although the Industrial school containing some hundreds of boys and girls has during one summer at least, had to send to the Wag water river in order to fetch its water.

Cleanliness is next to Godliness and as long as the Boys in this Institution have to carry water on their heads from place to place no thorough instruction in cleanliness can be carried out.

The water in the Reformatory wells has been condemned by the Pathologist on many occasions and in the interest of health a proper water supply should be installed as Typhoid has also been prevalent at times.

Some other water supplies could be improved upon either in the matter of quantity of water or quality.

Water being a necessity everything possible should be done to provide supplies that are above suspicion and that at the same time are plentiful and which furnish water adequate to the calls made on them.

16. *Hookworm.*—During the month of February, 1918, Dr. H. H. Howard, Director of the Rockefeller International Health Board in the West Indies arrived in Jamaica and arrangements were suggested in accordance with which that Foundation should commence work in Jamaica operations being started by the making of a survey.

The selection of a district in which a commencement will be made is naturally left to the International Health Board although it would seem advisable that the work should commence in a district where one can be sure of the willing and effective co-operation of the Estate Owners.

His Excellency sent a message to the Legislative Council, special sections of the Health Laws etc., showing the responsibilities of the Local Board of Health bearing on the subject being attached to the message. And on Thursday March 28th the Legislative Council voted the requisite funds for carrying out this Island's share of the programme.

Jamaica's part is "the introduction of proper sanitary improvements in the shape of a satisfactory "latrine system," and to pay for the medicines and stationery. The Rockefeller International Health Board will carry out the treatment and will provide its own staff.

Dr. Howard laid great stress on the fact that he wishes the sanitary work and the distinctly medical work to be carried out by different officers and to be entirely separate—as it might imperil the success of all attempts at treatment were the public to associate the carrying out of the Health Law and its sequence of possible notices and prosecutions with the treatment of the disease. In other words treatment of and investigation of disease should be run separately from the enforcement of sanitary Legislation.

It might be here mentioned that as the Government will appoint its own Superintending Sanitary Inspector (Health Officer) the Local Boards of Health might temporarily with the Governor's consent get rid of their Health Officer or Officers in any district or districts in which sanitation is being carried out by the Government and use the Health Officers salary for covering the expense of latrine accommodation.

Dr. Howard among other things has urged that the International Health Board should deal with the Government of the Island only and not with the several Local Boards of Health. This apparently is the custom in every place where the International Health Board carried on operations.

Dr. Howard told me the following fact which is of interest.

He stated that while going through a Reformatory somewhere in the West Indies the Manager or Superintendent of the Institution informed him that prædial larceny used to be very common among the boys admitted thereto and that he used to have 30 or 35 at one time undergoing punishment for this form of theft but that since regular and systematic treatment had been given the boys for Hookworm infection, the number of boys at one time under punishment for prædial larceny had decreased to 5 or 6 at a time.

The question would therefore arise. "How much if anything has Hookworm infection in children to do with prædial larceny." We know that some of those who are suffering from hookworm infection or disease owing to perverted sense become dirt eaters—may they not also become prædial thieves. Possibly the systematic treatment of hookworm infection may also reduce the amount of prædial larceny among children just in the same way that a dirt eater when cured of Hookworm drops his unnatural habit and regains his natural instincts. This Island is fortunate in having obtained the services of the International Health Board as I understand that when once a Colony or Country has refused or has not accepted the Board's assistance when offered as Jamaica has done the said Board goes elsewhere to help public health and very naturally so.

The following are the returns sent in from the various Hospitals with regard to Hookworm.

*Hookworm Infection.*—Stools examined locally at the Public General Hospitals for hookworm.

Hospitals.	No. Examined.		No. found infected.	
	Coolies.	Creoles.	Coolies.	Creoles.
Morant Bay	69	104	23	38
Hordley	5	25	5	13
Port Antonio	148	256	129	219
Buff Bay	194	682	125	337
Annetto Bay	148	6	138	6
Port Maria	..	..	..	..
St. Ann's Bay	..	..	..	..
Cave Valley	..	..	..	..
Falmouth	..	..	..	..
Ulster Spring	..	3	..	2
Lucea	2	47	..	46
Montego Bay	52	62	16	20
Sav.-la-Mar	290	13	195	13
Black River	..	..	..	..
Mandeville	..	..	..	..
Chapelton	..	..	..	..
Lionel Town	..	..	..	..
Spanish Town	26	4	26	4
Linstead	..	..	..	..
	934	1,202	657	698



*Examination by Government Pathologist.*—Stools sent up from Hospitals for examination for Hookworm:—

Hospitals.	No. Examined.		No. found infected.	
	Coolies.	Creoles.	Coolies.	Creoles.
Morant Bay ..	..	..	..	..
Hordley ..	20	157	18	140
Port Antonio ..	..	..	..	..
Buff Bay ..	..	..	..	..
Annotto Bay ..	278	..	263	..
Port Maria ..	249	59	197	52
St. Ann's Bay ..	1	259	1	236
Cave Valley ..	..	80	..	73
Falmouth ..	23	143	18	122
Ulster Spring ..	..	46	..	39
Lucea ..	3	297	2	263
Montego Bay ..	30	119	28	95
Sav.-la-Mar ..	8	..	4	..
Black River ..	1	174	1	129
Mandeville ..	..	153	..	141
Chapelton ..	..	40	..	37
Lionel Town ..	259	221	156	176
Spanish Town ..	217	128	203	104
Linstead ..	15	168	15	156
	1,103	1,944	905	1,763

*Examination of stools at the Spanish Town Prison.*

Total cases examined ..	..	..	..	48
Infected ..	..	..	..	48

Report by Dr. Grabham on Hookworm infection at the General Penitentiary.

19 cases were treated for hookworm during the year ended 31st March, 1918. They were all severe cases.

Port Antonio,  
June 17th, 1918.

Copy.

Sir,

Hookworm and its treatment is now very prominent in the minds of the profession and Public, so I beg leave to give my experience to correct a fallacy which has always existed as to thymol.

It is stated in most works and papers written on Thymol treatment that Thymol given with oil or followed by oil will exhibit marked toxic effects. This is not so as the records of this hospital can show.

Dr. Moseley finding thymol easily soluble in castor oil and very convenient for administration has for years given 20 gr. doses in this way, every third morning and I have for the past year followed on these lines, with good results, and absolutely no ill effects. Very recently a child of seven years who was badly infected took 28 grs. divided in three doses in 12 hours with no ill effects except the usual depression which follows heavy doses, and with marked benefit to this condition.

I am, etc.,

(Sgd.)

FRED. G. GROSSETT,  
Actg. D.M.O.

The Suptg. Medical Officer,  
Kingston.

(The above would seem to show that Thymol may be given as medicine in oil without any serious after effects. Ed.)

17. *Malaria.*—In so far as the Hospital Service is concerned Malaria shows a smaller return than during the previous year.

The returns from Hospitals depend very much upon the incidence of Malaria among East Indians and are as a rule especially high in those Hospitals to which East Indians chiefly resort—for instance Port Antonio, Annotto Bay Savanna-la-Mar, Lionel Town and Hordley which at times contain many East Indians.

What the actual prevalence of malaria may be among the general public who do not live near a Hospital it would be difficult to say, malaria not being a notifiable disease.

The incidence of cases that attend for Hospital treatment compared with rainfall is shown in the chart attached.

One of the best results achieved in the matter of the prevention of mosquito life is the gradual filling up of Warner's pond at Port Maria.

It would be well were it possible now to devote more money to the filling in of swamps and thus abolish a preventable disease that affects to a very great extent the working power of the labouring classes.

There are several swamps down the Rockfort Road in the Parish of Kingston which should be filled up as that portion between Rockfort Road and the seashore, if freed of swamps and mosquitoes should become a most pleasant residential quarter.

Cheap labour could always be supplied by prison labour and the work would be done quickly there being no insuperable obstacles in the way.

*Admissions to the various Hospitals month by month for Malaria.*

Hospital.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total.
Morant Bay .. ..	4	3	5	1	15	6	7	15	11	10	10	4	93
Hordley .. ..	12	16	12	1	17	30	16	17	26	12	8	13	198
Port Antonio .. ..	20	15	37	7	5	61	150	158	222	109	64	51	1,035
Buff Bay .. ..	12	8	10	9	1	28	27	22	19	20	15	14	198
Annotto Bay .. ..	18	30	28	15	38	41	39	68	64	31	30	11	413
Port Maria .. ..	7	3	2	..	1	4	9	10	8	14	9	4	74
St. Ann's Bay .. ..	..	3	2	..	5	3	9	6	4	7	1	1	43
Cave Valley .. ..	..	..	..	..	1	..	..	..	..	..	..	..	1
Falmouth .. ..	2	4	5	1	5	7	11	8	15	11	6	3	78
Ulster Spring .. ..	..	..	..	..	..	..	..	..	..	..	..	1	1
Montego Bay .. ..	16	9	2	10	11	4	12	18	25	12	9	10	138
Lucea .. ..	5	1	..	1	2	6	6	1	..	2	1	2	27
Sav-la-Mar .. ..	50	46	38	111	106	89	145	93	94	52	57	46	927
Black River .. ..	6	5	8	..	3	8	9	5	10	6	3	4	67
Mandeville .. ..	1	..	..	2	..	..	..	..	..	1	1	..	5
Chapelton .. ..	2	2	1	2	3	1	2	2	2	2	3	2	24
Lionel Town .. ..	34	27	15	11	27	19	40	95	83	72	64	50	537
Spanish Town .. ..	10	6	8	11	14	12	12	18	27	17	12	13	160
Linstead .. ..	2	1	..	..	3	2	2	1	5	1	1	..	18
Kingston .. ..	16	15	16	9	12	14	26	34	52	30	19	8	251
	217	194	189	282	352	335	522	571	667	409	313	237	4,288

18. *Cutting short of this Report.*—Owing to the necessity for brevity on account of the shortness of paper it has been found necessary to leave out this Report many reports from the various District Medical Officers on the subject of Venereal disease, ackee poisoning, General Sanitation and Water supplies, many of which reports are very interesting and instructive.

19. Return shewing the quantity of Quinine supplied from 1st April, 1917 to 31st March, 1918.

Police for own use .. ..	47,600	No. 5 gr. doses = 34 lbs.
Police for sale .. ..	6,000	No. 5 gr. doses = 4½ lbs.
For distribution to Schools .. ..	33,600	No. 5 gr. doses = 24 lbs.
Post Office for sale—Packets of 5 gr. doses	234,000	
“ “ “ 3 gr. “	2,000	
“ “ “ 2 gr. “	2,000	
“ “ “ 1 gr. “	2,000	

Total 240,000

Doses of 5 grs. to Estates—37,800 = 27 lbs.

Doses of 5 grs. Parochial Boards—4,025 = 2 lbs. 14 ozs.

Doses of 5 grs. Hospitals and Asylums—19,600 = 14 lbs.

Total receipts minus Police and Department—£405 16s. 1d.

Quinine sulphate sent to Hospitals and Asylum 2,242 ozs. = 140 lbs. 2 ozs.

Quinine sulphate sent to Parochial Boards—220 ozs. = 13 lbs. 12 ozs.

As quinine is still being sold at the Post Offices at the original price of one farthing a five grain dose or a penny for 4 doses the Department is naturally a great loser financially the difference in the price of quinine before the war and at present being 21/6d. the pound.

It was thought better however not to raise the price of these packets of quinine as the public are now accustomed to the prices charged and any interference with recognised charges made might interfere with the sale of the drug.

20. NEW WORKS.

Due to the financial condition of the Island comparatively little has been allowed during the year in the way of New Works—the following is a list of what has been allowed:

*Annotto Bay*—Flooring of nurses room.

*Lionel Town*—Erection of a hand pump to the well.

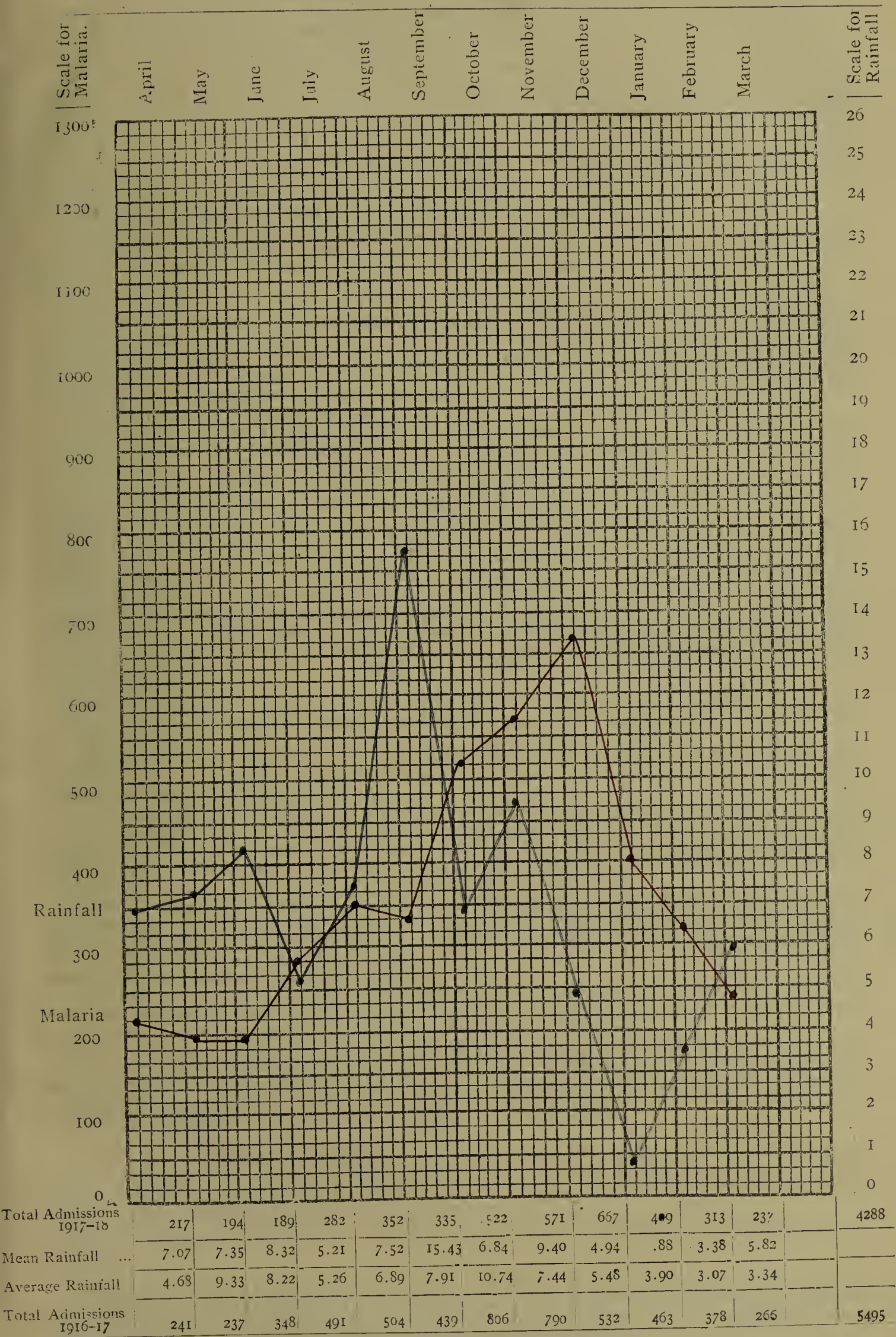
*Lucea*—Erection of a skylight in the Operating room. Erection of a raised sink near the kitchen. Erection of a door and two windows in the kitchen.

*Port Antonio*—Re-erection of a Mortuary (blown down during the hurricane). Replacing of a roof of the Dispenser's and Matron's quarters (blown away during the hurricane).

Embedding of the iron safe in concrete.



Chart showing the monthly number of admissions to the Public Hospitals in Jamaica for Malaria as well as the monthly Rainfall during the Financial year. 1917-18.







*Port Maria*—Concreting of the drains in front and back of kitchen storeroom and Matron's quarters. Erection of three sunshades at the back of the Matron's quarters.

*Spanish Town*—Screening of the kitchen to keep out flies. Conversion of a part of the kitchen into a room for the servants to change their clothes in.

21. *Medical Attendance*.—The question of medical attendance on the Public is one that has often been raised and very rightly so, as the present system has its absurdities and drawbacks. For instance under the ticket relief system a sick person in the parishes outside Kingston can obtain from appointed ticket distributors a ticket entitling him to medical advice and medicine at a reduced price; in other words instead of paying the usual fee of 4/ for advice and treatment he can obtain it at the D.M.O's. office for 3/ or 2/. However should such patient fall ill at his own home he must in addition to the 3/ or 2/ free for a ticket pay the doctor the mileage fee of 1/6 per mile one way. Supposing the patient lives say 5 miles from the doctor's residence he must, in addition to the price of the relief ticket which he was able to obtain because he could not afford 4/, pay 7/6 mileage (1/6 per mile one way).

Inasmuch as he cannot afford to pay the full fee of 4/ for a visit it is obvious that he cannot pay the additional Mileage fee which is nearly double the dollar fee for the visit. The system is ludicrous and must have been devised in the interest of the medical man without due consideration for the general public.

An excellent idea was suggested in Council by the Hon. Member for St. Thomas who proposed that the poorer people should be entitled to a visit to and treatment by the District Medical Officer at the rate of one shilling, that the drugs should be supplied by the Medical Department free and that in order to compensate the District Medical Officers for the loss of fees to themselves their stipends should be increased. The suggestion is one that is worthy of serious consideration in the interest of the Public. I may say that in the last Colony in which I served any one could claim attendance and treatment at the Outpatient room of the Colonial Hospital by paying one peseta (equivalent to a little more than 10 pence).

As far back as the year 1911 I suggested that the mileage system should be abolished here and that D.M.O's. as in some other Colonies should be given Horse or Travelling allowances by the Government to cover the extra travelling that would be necessary. See my letters 1268/2473 dated 19/8/11 2011/3063 dated 13/12/11., No. 1369/4774 of 18/10/17. This would do away with the mileage system and would help the public generally and 1/ tickets or fees might also be instituted in the country just as is the case in Kingston with free medicine thrown in as suggested by the Hon. Member for St. Thomas. However something might be done by calling upon all those Medical Officers who have joined the service since Rule 18 was made to give free treatment with Government drugs in non Hospital districts as is now given in Hospital districts [at the Hospitals] as at present the poorer peasantry and labourers in non-Hospital districts are at a disadvantage when compared with those in districts where a Hospital exists owing to the fact that the latter can obtain free treatment at the Hospital Outpatient room by presenting a ticket (given by a distributor who vouches for the fact that the person to whom he has given the ticket is unable to afford a fee) whereas the former cannot do so owing to the absence of a Hospital Outpatient room in his district, unless of course he is prepared to go to the nearest Hospital district which few doubtless would trouble to do.

22. *Medical Council*.—During the year under review six candidates have presented themselves for examination by the Council with a view to registering in Jamaica under Law 49 of 1908. Of these three have been rejected.

Although the present Medical Council acts on principles which safeguard the Public of Jamaica still it is a question whether it would not be better to amend section 14 of Law 49 of 1908 and to adopt the practice now existing in New York State.

Under section 14 of Law 49 of 1908 any one who holds a Diploma, License or certificate granted to him by any University or by any College, or Faculty of Physicians or Surgeons after and in consequence of his having passed through the course of study and examinations prescribed by such University College or Faculty of Physicians or Surgeons and who wishes to become qualified, and to be registered under the Medical Laws of this Island, can claim to sit for examination here.

Under the Regulations framed by the New York State Board only those candidates may sit for examination who have carried out their education in certain selected Colleges. Under the latter Regulations candidates from Colleges the standard of Medical education of which is not considered satisfactory would not be allowed to sit for the New York State Board Examination. One could thus exclude candidates from second rate and so-called Commercial Colleges.

As showing the low requirements of some Colleges that dispense medical Diplomas it may be here mentioned that one candidate who recently failed to pass our local examination stated that he had never had a clinical examination before sitting for the Jamaica Examination.

23. *Legal decision regarding fees for notification of infective cases by the District Medical Officers*.—Owing to a query by the Parochial Board of St. Andrew as to the necessity for paying fees to the Acting District Medical Officer in charge of the Union Poorhouse for reporting cases of notifiable disease occurring in the said Poorhouse, it was decided by His Excellency that such fees could not be legally paid under the Law but permission was given to have a case settled in the Law Courts.

Dr. L. M. Clark, District Medical Officer of Linstead district very pluckily sued the St. Catherine's Parish Parochial Board for fees in the Resident Magistrate's Court, fees that had been refused him under the above decision. In the Resident Magistrate's Court Dr. Clark lost his case but "on appeal" to a higher Court the judgment of the Lower Court was reversed.

Dr. Clark is to be congratulated on the success of his venture which not only benefits himself but also other Medical Officers.

24. *Dental Law*.—During the year 1917-18 the Governor in Privy Council under section 8 of Law 11 of 1905 the Dental Law declared that a diploma from any of the Colleges mentioned in the Jamaica Gazette dated February 28th 1918 may make application in writing to the Governor to appoint a Board of Examiners with a view to undergoing a Local Examination in dentistry.



If such diplomate can pass the local Examination he is given a certificate which entitles him to register under the Law and he can then practice dentistry in Jamaica.

25. *Contingent Committees.*—During the last year it has been my privilege to be Chairman of two Committees appointed to deal with Pensions, Allowances and Gratuities in connection with the contingent and British West Indies Regiment.

The first was a Sub-committee of the Central Recruiting Committee which was appointed to deal with the cases of men discharged from the contingent or B.W.I. Regiment and who were either sick, sorry, invalided or who needed help. On this Committee the Hon. H. A. L. Simpson and Mr. Michael DeCordova of the Gleaner were my colleagues.

The second Committee was one appointed by His Excellency the Governor to consider the cases of Dependants of men of the contingent or B.W.I. Regiment.

This Committee was held at Camp usually in the Chief Paymaster Office. My Colleagues on this occasion were Major Down C.P.M., Major Sanguinetti, S.O.L.F., Captain Cameron, P.M.O., Contingent.

Each Committee has dealt with a large number of cases and I record with pleasure the complete smoothness and absence of friction as well as the unvarying good feeling that has characterised all our meetings in addition to the great interest in the work that was shown by all my Colleagues. I desire also to record the willing assistance that has been given me by the Clerks and Typist in the Correspondence Branch of my office, Messrs. M. C. Solomon, B. M. Clark and Miss Bridge, in dealing with claims for assistance sent in by discharged men and dependants.

The correspondence has at times been considerable and had added considerably to the work of the Staff. These Officers especially Mr. Clark have often had a considerable amount of extra work added to their routine duties but have always done it cheerfully, regarding it doubtless as doing their "little bit" towards helping in the conditions now existing due to the War.

These Committees have now been absorbed into the Central Supplementary Allowances Committee

26. *Rise in prices of food.*—Since the war commenced the price of food has risen greatly so much so that the "Maintenance" Votes of the various Hospitals have risen accordingly.

Below is recorded the cost per day for maintenance (food) only of patients at the various country Hospitals during the last three years. This will show why the cost of up keep has increased.

	1915-16.	1916-17.	1917-18.
	d.	d.	d.
Morant Bay .. .. .	5.1	5.3	7.8
Hordley .. .. .	5.9	6.4	8.5
Port Antonio .. .. .	5.7	6.4	7.8
Buff Bay .. .. .	6.0	6.7	7.8
Annotto Bay .. .. .	5.8	6.5	8.1
Port Maria .. .. .	5.2	5.8	7.4
St. Ann's Bay .. .. .	5.8	6.0	7.3
Cave Valley .. .. .	6.0	6.4	8.4
Falmouth .. .. .	6.3	6.4	8.3
Montego Bay .. .. .	6.0	6.1	7.6
Lucea .. .. .	4.9	6.7	8.5
Sav.-la-Mar .. .. .	4.8	5.6	6.9
Black River .. .. .	4.5	5.2	7.3
Mandeville .. .. .	5.8	6.2	9.1
Lionel Town .. .. .	4.4	5.0	8.0
Chapelton .. .. .	6.3	6.2	9.1
Lionel Town .. .. .	4.4	5.0	8.0
Spanish Town .. .. .	5.0	5.1	7.2
Linstead .. .. .	5.9	6.4	8.5
Lepers Home .. .. .	6.0	6.1	8.1
Ulster Spring .. .. .	6.5	7.3	8.3

Were it not for this rise in the price of foodstuffs the Estimates of the Medical Department would be considerably lower and items that have had to be cut off or reduced in order to provide drugs and dressings might have been left on the Estimates; my orders being not to allow the Estimates for 1918-19 to exceed those of the year 1917-18.

27. *Tax on Motor Cars.*—A suggestion was made by Dr. J. A. L. Calder that some concession might be made to Medical practitioners in connection with the proposal to increase the tax on Motor cars in the shape of a reduced tax on motor cars for use in the performance of their medical work. This was turned down unfortunately.

28. *Hospital Furniture.*—The Hospitals are still very badly furnished with necessaries—Chairs are notable by their absence. Bedside tables likewise. When directed to cut down my estimates to the level of last year I had to reduce the furniture Vote by £511 19s. 6d.

29. *Isolation Blocks.*—As mentioned on previous occasions some of the Hospitals are very hard pressed for space in which they could isolate infective cases requiring isolation, in fact such space can hardly be said to exist in certain Hospitals.

30. *Ackee Poisoning.*—During the past year a large number of cases of ackee poisoning have occurred in various Parishes whereas there are also parishes in which the trouble does not seem to occur.



The ackee appears to have been mentioned in times gone by in songs by the peasantry. One song has a verse as follows:—

“Carry me ackee go a Linstead market  
Not a quatty worth sell.  
Carry me ackee go a Linstead market  
Not a quatty worth sell.  
Lawd! not a light, not a bite,  
Not a quatty worth sell.  
Lawd! not a light, not a bite  
What a Saturday night!

Another song however (many of the verses of which I am told are unsuitable for publication) mentions the ackee in the words below—showing distinctly that even the poisonous nature of the ackee has been recognised and has been commemorated in song or folk lore of this Island.

Then you tek ackee bwile soup?  
Tek natta (i.e. annatto) colour it?  
Gal, you want fe come kill me, kill me,  
Gal, you want fe come kill me.

In view of this song which would appear to bear out Dr. Scott's theory that the ackee under certain conditions is poisonous, a theory that he has proved by Pathological work it would seem proper now to cease using the term “Vomiting Sickness” a name given to the ailment some years back due to ignorance as to its cause.

When vomiting occurs in the course of a disease it simply does so as a symptom and nothing more—one might even call biliousness with vomiting by the name Vomiting Sickness. The term does not exist in the nomenclature of diseases.

Now that the ackee has been shown to be, under certain conditions, poisonous one must take care that this poison is not systematically used by evil disposed persons in order to rid themselves of other persons that they wish to get rid of.

Curiously enough the ackee (*Blighia Sapida*) also exists in West Africa in the Lagos country under the name of “Isin” and in the *Journal of Tropical Medicine* dated April 15, 1918 No. 8 Vol. XXI there is a report by Doctor A. Connal, Director of the Medical Research Institute Lagos and Mr. W. Ralston, Government Chemist Nigeria, on some experiments that were made by them on animals using the various portions of the “Isin” (ackee) with a view to finding out whether that fruit was poisonous or not and which portion was poisonous.

The results are interesting for they corroborate Dr. Scott's investigations inasmuch as the animals that died after being fed with extract of unripe ackees showed the same post mortem appearances as Dr. Scott has found to be the case in Jamaica. Fatty degeneration of the liver cells being very noticeable.

Further than that it is evident that the inhabitants of that region are quite aware of the poisonous nature of the ackee because these investigators quote a local Yoruba saying which is as follows:

“He who knows to eat the “Isin” knows to remove the poison.

It seems curious that in spite of much discussion from time to time in the local newspapers on the part of “Amateur experts” on the subject of the non poisonous properties of ackees that the folk lore of two Colonies should have already settled the matter in one case (Jamaica) in a song and in another case (Nigeria) in a “Saying.”

The above-mentioned investigators also state that there is no trade in the fruit and that very occasionally a basket of “Isin” is seen exposed for sale in the various markets, but that for all practical purposes it may be accepted that the fruit is eaten only by those who collect it themselves from an easily accessible tree and that further it appears to be the general custom to eat the “arrilli” discarding husk, seeds and “placenta.”

It will now be necessary to have the school children in the Elementary schools taught to distinguish by name the various parts of the fruit and which fruit to select for consumption and how to cook it, and what to consume and what not to consume when once the ackee has been cooked.

### 31. *Rio Cobre Home.*

Copy.

Hon. S.M.O.,

I have the honour to forward herewith a brief report on the Medical work at the Rio Cobre Home for children of the men of the Jamaica War Contingent.

There were 63 children received during the year, 20 of whom were in feeble health. Two deaths occurred during the same period. These two children were received into the Home in an extreme state of general enfeeblement due unquestionably to malnutrition.

There was an outbreak of Trachoma which for a while proved very resistant to treatment, but ultimately yielded to Tropical application of Silvol P.D. & Co.

For minor ailments the children are treated in this Institution but in acute conditions arrangements have been made for their treatment in the Public General Hospital.

The sanitary condition of the Home and the general health of the children is at present satisfactory.

I have, etc.,

(Sgd.) H. H. BLAIR,

Actg. D.M.O.

15.5.18.

32. *Manning Home*.—The following cases were treated by me not including those cases attended to by the Matron during my absence: a stock of made up remedies being kept under her care for such emergencies.

Diseases of the skin .. .. .	21
Diseases of the eye .. .. .	1
Fever Malarial .. .. .	2
Chronic constipation .. .. .	1
Glandular swellings .. .. .	2
Chicken pox .. .. .	8
Hookworm .. .. .	2
Lumbricoides .. .. .	1
Diseases of the scalp .. .. .	22
Rheumatism .. .. .	1
Neuritis .. .. .	2
Diseases of stomach and Intestines .. .. .	16
Anaemia .. .. .	6
Wounds .. .. .	3
Abscesses other than those of head .. .. .	3
Diseases of Respiratory organs accompanied with fever	40
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	131
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(Sgd.) R. M. STIMPSON,  
Medical Officer in charge.

33. *Quarantine*.—The following report on matters quarantine has been written by the Secretary to the Quarantine Board and approved by the Board. It gives an account of the number of ships disinfected and calls attention to those countries and places against which precautions have been taken. It will be noted that only four persons have been quarantined at Green Bay.

J. E. KER,  
Chairman Quarantine Board.

The Chairman and Members Quarantine Board,

I have the honour to submit to you a resumé of the working of your Board for the year 1917-18.

2. The Regulations as set forth in the Quarantine Circulars have worked on the whole very smoothly and as they are similar to those in force in some other countries, Masters and crews of vessels understand what is required and give very little trouble. Constant vigilance however is necessary as ships Officers are often prone to let things slide if they think that notice will not be taken of their action.

3. The plague situation in all countries has remained practically the same as last year except in regard to New Orleans where the disease seems to have been eradicated both in man and rat and the quarantine restrictions for Plague in so far as New Orleans is concerned have accordingly been withdrawn.

4. Plague is still present in the States on the Pacific side of South America and also in certain States on the Atlantic side.

5. I am glad to state that except for sporadic cases of small pox the West Indies have been free from quarantinable diseases during the year under review.

6. Plague has been present throughout the year in Egypt, India, Indo China, Hong Kong certain cities in China and Japan, etc. In April 1917 it made its appearance in Cape Colony, Orange Free State and the Transvaal. The cases were all inland so that there was little reason to expect its transmission to other countries.

7. Plague broke out in Malta in May, 1917 but was promptly eradicated the last plague rat having been caught in July, 1917.

8. England has reported no cases of human plague during the year while plague in rats has not been reported from either London or Liverpool.

Two vessels which arrived at the Port of London from the East had each several cases of Plague on board. The cases were landed in the Quarantine Station, the cargoes of the vessels landed under supervision and the vessels fumigated and no further cases have developed.

9. Yellow Fever has been present in Mexico, Guatamala and certain South American States during the year and at the time of writing still persists. No cases of this disease have been discovered in vessels arriving here from the above-named place.

10. Smallpox has been prevalent in some parts of the United States. A few cases have appeared in Central America and one or two in Cuba. Three cases of the disease have been removed from vessels arriving here and isolated in the quarantine station.

11. Mr. E. G. Orrett a member of the Quarantine Board was absent on leave from his duties for a short time during the year.

12. A portion of the Quarantine Station was loaned to Jamaica War Contingent for a short time during the year.

13. During the year there have been four persons confined in the Quarantine Station and 429 packages of baggage disinfected.

14. 46 vessels have been fumigated during the year. Both disinfectors are in perfect working order.

15. The Quarantine Board since the war commenced have granted every possible facility to vessels consistent with the proper safeguarding of the public health and particularly to suspected vessels; in fact the facilities have been so great that the laws in force were not adequate to deal with certain persons who by communicating with these vessels though there was no necessity for them to do so ran the risk of endangering the Public Health.



An amending Law was passed at the last meeting of the Honourable Legislative Council which will enable the Board while still granting vessels every facility to deal with any person who, may consider his or her own convenience as a matter of more consequence than the health of the public. The Quarantine Rules for vessels in quarantine have also been revised and brought up to date.

16. The Government sanctioned the employment of an Assistant to the Secretary of the Quarantine Board during the year. The duties of this office are to meet each vessel on arrival and see that the quarantine Regulations are properly carried out and he has been of great assistance to me while the danger of infection from Plague has now been reduced as far as it is possible without placing restrictions on vessels which would cause their delay, a most undesirable thing at the present time.

17. The Telephone between the Kingston Public Hospital and the residence of the Health Officer, Port Royal has been frequently interrupted during the year and though while working it is invaluable for the rapid handling of vessels its unreliability has on more than one occasion caused considerable annoyance to those who have to depend upon it.

18. In conclusion one may say that although the past year has been on many occasions an anxious one, I am glad to say that the effectual application of the Regulations has kept the Island free from all quarantinable diseases.

CHARLES DÓN,  
Secretary Quarantine Board,  
4th June, 1918.

I have the honour to be,

Sir,

Your obedient servant,

J. E. KER,  
Suptg. Medical Officer.

The Hon. the Colonial Secretary,  
Kingston.

*Annual Report on the work carried out in the Government Bacteriological Laboratory April, 1917-March, 1918.*

Pathological Laboratory, Public Hospital, Kingston, Jamaica,  
1st May, 1918.

Sir,

I have the honour to forward the following report upon the work done at the Laboratory during the official year April 1st, 1917 to March 31st, 1918.

No appointment has been made to the post of Assistant Bacteriologist rendered vacant by the resignation of Dr. Catto in January of 1917, so the staff has throughout the year consisted of the Bacteriologist, a senior and junior Laboratory Assistant (Mr. Dailey and Mr. Reid) and a typist and Stenographer (Miss Sparkes). During the last part of the year the work had continued to increase, and sanction was obtained for an additional washer.

I would like to place on record my appreciation of the loyalty of all the assistants, and their willingness to disregard with me the usual official hours, and to come early and stay late in order to cope with the work which had to be done. Had it not been for their loyal co-operation some proportion of the work would of necessity have had to be refused.

The Routine Work has been grouped as given in Table I appended, and the important points in connection therewith will be mentioned in that order.

In addition two important matters have been made the subjects of special research, namely, the acute outbreak of Central Neuritis in Spanish Town and its neighbourhood, and secondly, fresh investigations into the outbreak of "Vomiting Sickness" so-called.

Instead of the usual subdivisions of my report under the main groups of Routine and Research Work, some of the matters arising in the course of the former have been deemed worthy of a more detailed account than would be adequate in a statement of routine matters and I have therefore divided the present report into three main sections:

1. Routine Work.
2. Matters worthy of special note arising during the course of routine examinations.
3. Research Work.

## I. ROUTINE WORK.

1. *Examinations of blood for Enteric Fever by the agglutination test.*—There has been practically the same number of sera sent up for this test during the twelve months under review as in the previous period, viz., 1303 as compared with 1302, but whereas in 1916-17 there were 487 of these positive, or 37.44%, during this last 12 months there have been 675 or 51.80%, a very serious increase. The accompanying table expresses these facts. It will be noted that the number found positive in March, 1917 is almost identical with that in 1916, although the total number sent up was so much greater in 1916. The reason for this is that half of the 157 sent up during March 1916 were from healthy subjects at the Penitentiary. Examination was made of these in order to safeguard against the spread of Enteric by carriers, and many were, therefore sent up to find out whether they were free before being employed in the handling or preparation of food.

The above figures refer to specimens sent for this test from all the districts in the island. More important is it to see how matters are in Kingston.

A study of the graph II in conjunction with Table III appended will show that in 1916-17 there were 861 blood sera examined by this test in Kingston with a positive percentage of 33.21, while in 1917-18 there were 693 with a positive percentage of 52.24. Also the graph shows that except during April and May the lines run a very similar course but that for 1917-18 is on a higher level, in other



words Enteric fever has been more rife this year than last, and the increase is not due to any spasmodic outbreak but to a continued increase in cases throughout the year. If the old dictum that the incidence of typhoid is to be regarded on the Sanitary Index of a district holds good, the moral is clear, and the matter should be very seriously taken in hand before the return of the contingent with the necessary introduction of several more carriers to act as foci for the spread of the disease. Other blood examinations carried out have been mainly ordinary and routine work as for malaria, leprosy, blood-counts, etc. The next point worthy of special mention is that of

2. *Faecal examinations for the presence of Helminthiasis.*—The examinations were made primarily for the detection of Ankylostomiasis, but incidentally other worms or their ova were looked for at the same time. Owing to many medical men being away the treatment has probably not been so carefully or so thoroughly carried out, for there has been no fresh immigration of coolies during the year, nevertheless the percentage of infection has risen considerably.

During the twelve months under review 4,073 specimens have been examined for this purpose. Of these 3,497 contained ova of some worm or other—Ankylostoma, Ascaris or Trichuris. This gives a percentage infection of 85.85 as compared with 80.79 during the preceding year.

Taking account of the country districts only, that is excluding Kingston itself and those who are apparently healthy and who merely have to be examined to obtain a certificate to enable them to emigrate to the United States, out of 3,362 specimens examined from the various parts of the island only 150 have been free from all helminth infections, giving a positive percentage of 95.54. No benefit would arise from going into the details of the Ascaris and Trichuris infections any who wish to do so will find all the data given in Tables V, VI, VII, VIII, and IX, but the Ankylostome merits a few more words. From Table VI it will be seen that of the total examined 74.64% contained hookworm ova, or, if Kingston and emigrants be excluded to enable us to obtain a fair estimate of the rest of the island, 83.43%.

Of the districts from which over 100 specimens have been sent during the year, in only one—Lionel Town—has the percentage of specimens containing Ankylostoma ova been below 70, and the majority were between 80% and 96% as is shown in column 4 of Table VI. The comparatively low proportion of Lionel Town District is due to the results of the first half of the year. To show this more clearly, Tables VIII and IX have been drawn up. A perusal of these will show that the proportion in this district has gone up with a leap; though why this one in particular should have been affected I can offer no suggestion. Thus Table VIII shows that 66.04% of all the specimens sent up were infected with one or other of the three parasites looked for and 42.32% contained ova of hookworm; this table refers to the first six months—April to October 1917. Table IX, dealing with the second half of the year, October 1917 to March 1918, shows that out of 264 specimens sent up 253 contained ova of one sort or other, i.e. 95.83% and 92.42 revealed Ankylostomes as compared with 42.32% in the preceding six months. Annotto Bay District, it is true, has even a higher proportion still, but has only increased a little, viz., from 86.66% to 94.20%, the infection there having been severe for some time.

3. Other faecal examinations were carried out for deciding as to the presence of the Amœbæ of Dysentery, and some also for the isolation of the B. Typhosus and Paratyphosus in suspected carriers; 665 such have been examined.

Many of these examinations have been in connection with some research work which was started in October. This, however, had to be abandoned temporarily when the outbreak of Vomiting Sickness arose and I received orders to investigate this last matter over again. It will be seen from the account of the latter in the third section of this report that there was no time to follow up the Dysentery research. I hope to be able to continue this during the present year.

On the subject of Dysentery, without going into the figures in detail, it will suffice to say that cases giving positive results are becoming more numerous; in part, at least, this is due to more patients being examined and the gradual elimination of the idea that amœbic dysentery did not exist in Jamaica. Many of the contingent who have gone to the front will certainly return infected with the amœbæ. Some have already returned and possibly have contributed in part to the increase. Under the present sanitary, or insanitary condition under which many of the class of men from which the contingents have been recruited, pass their lives, this fact will constitute an even more serious menace to the community than does Enteric Fever at the present time.

Other examinations have been carried out for the isolation of Enteric bacilli from the stools of suspected carriers and of those who leave the hospital after passing through an outbreak of the disease, as already mentioned.

A few specimens have also been sent up for examination for occult blood in cases of suspected duodenal ulcer or malignant disease.

4. *Wasserman Reactions.*—During the year April 1916—March 1917, there were 202 sera submitted to this test. During the first 6 months of the succeeding year now under review 146 were tested and facilities for free examination having been given subsequently to this the number sent up for the second half year has been considerably increased, viz, to 248, giving a total for the year of 394, almost twice that of the previous twelve months.

As regards this test I have found it necessary here to go through the whole process of standardising the Fæmolysin and the Antigen each time, as well as the complement. At home it is a common practice to make an original test of the first two and then check them occasionally. Here, however, the variations are so marked that the preliminary standardisations have to be performed on every occasion. This is laborious, necessitating 5 hours' work each time before the test proper can be started, but the increased trouble means far greater accuracy and is consequently well worth while.

5. Among specimens of sputa sent up for examination for the presence of B. Tuberculosis it is interesting to note that there were three cases of Bronchomycosis and one of Streptothrix infection. One of the former apparently cleared up completely, that is to say, all physical signs of active mischief disappeared, the health improved and the patient was able to be discharged from hospital and return to work, and there was no sputum for some time prior to leaving hospital.

Of the other two one died in 2-3 months after coming under observation, with extension involving the pleura.



6. The number of tissues examined is much higher this year, viz., 451 as compared with 104 last year. This is due to the investigations into the Spanish Town epidemic during the first six months and the so-called "Vomiting Sickness" during the latter.

7. A few words may be said concerning the division "Miscellaneous." This group includes the examination of throat-swabs and cultures for the Klebs-Loeffler bacillus of Diphtheria, cultures of cerebro-spinal fluids, examinations of articles for blood stains, etc., in connection with medico-legal cases, and so forth, matters which cannot be placed under any of the other categories.

The remainder of the first section—Routine examinations—do not call for any more detailed account.

Not mentioned in the table of routine examinations, but nevertheless an integral part of the routine work, the preparation of vaccines is worthy of a brief note. Over 10,000 doses have been sent out from the Laboratory and probably, if the idea of antytypoid inoculation becomes popular this section of the work will be still further increased.

## II.—SPECIAL MATTERS ARISING FROM ROUTINE EXAMINATIONS.

### A. *Relative to Enteric Fever.*—1. A localised Enteric Fever outbreak on board a vessel.

A certain vessel put into Kingston Harbour with several of the crew ill, and I was ordered by the Central Board of Health to visit the ship and see the patients with a view to elucidating the nature of the complaint. I found six of the crew ill, four of them seriously. The other two had only reported sick within the previous 48–72 hours. The vessel had come from an insanitary port and in view of the febrile nature of the complaint and that four had palpable spleens and some abdominal tenderness I took specimens of the blood from these patients to test by the Widal reaction for Typhoid or Paratyphoid fever (none of them had been vaccinated for either of these conditions) and smears for malaria.

The results of the examinations were:—

(1) Chief Officer H. had been ill about 10 days, he showed some suspicious rose spots and had had headache for the first week or so but not severe. His blood gave a well marked agglutination reaction with B. Typhosus and in low dilution with B. Paratyphosus A also, (this proved to be merely a group reaction). No Malarial Parasites seen in the smear and no increase in the large mononuclear cells, none of those seen contained any pigment; there was a relative lymphocytosis.

(2) Chief Officer S. This patient's serum gave the same reactions as the last, and it was rather curious they were both taken ill on the same day, June 19th. The smears from this patient showed the presence of the *Plasmodium Falciparum*.

(3) (a steward): This man had reported sick "off and on for a week or so" feeling ill one day and a little better the next and going on with his duties, but somewhat lethargically apparently. His blood gave a strong agglutination with B. Typhosus, none with either of the Paratyphosus organisms and his blood also contained malarial parasites.

(4) N. A. B. This man was very weak and looked more seriously ill than any of the others, but was walking about in a partially dazed condition. He had been ill, it appeared, some 12 days. During the morning of the 29th he had fallen down "through weakness." His blood also gave a good agglutination with bacillus Typhosus and a few plasmodia were seen in the smear of his blood.

(5) E. S.: another of the crew. This man had only been ill for two, possibly three, days. He was up and about and complained only of headache and sleeplessness. Smears of his blood were taken for examination for malarial parasites and in case he had been ill really longer than he stated a Wright's pipette of blood was also taken on the off chance that an agglutination reaction might be obtained. His temperature when I saw him was just upon 100°F. No parasites were seen in the smears, but the Widal test gave a positive reaction with B. Paratyphosus A. no agglutination with B. Typhosus at this stage at least.

(6) The blood from another man was taken as smears for malaria. As he had been well until the same day (29th) no specimen was taken for a Widal reaction. No Malarial parasites were found in his blood.

They were all six landed and taken to the Hospital and except the last who rapidly got well, they all passed through a typical attack of Enteric Fever.

In view of this outbreak and hearing that the first two were taken ill the same day, I took samples of the water supply for analysis and it proved to be remarkably pure.

I also obtained specimens of the Urine and Fæces of several asking specially for those of the cook, and stewards, and in fact any who took part in the preparation of handling of the food.

Briefly stated, I was fortunate in finding that the assistant cook was a carrier and was excreting typhoid bacilli.

2. A girl nine years of age, suffered from an attack of Enteric fever; Widal gave well marked agglutination on December 27, 1916. She passed through an attack of average severity.

Early in March, 1917, when the child had been convalescent for 3–4 weeks, her mother began to suffer with acute attacks of trigeminal neuralgia of the right side with photophobia at the onset. Prior to this the mother had always been quite healthy, in fact she did not remember ever having been ill in her life.

The neuralgia lasted with great intensity for three days, practically without intermission and unaffected by the administration of Gelsemium, Croton Chloral, Morphia, etc. During the ensuing 4 or 5 days there was a certain degree of alleviation, but a dull headache remained. While the attack was on, and also afterwards there was marked cutaneous hyperaesthesia. In the second attack the occipital area of the same side became affected. There followed another interval of comparative comfort for 5 or 6 days and another attack came on. The temperature was variable; it was occasionally 99°, and once rose to 102° but was mostly subnormal.

On April 9th in view of the illness of the child, whom she nursed, and in view of her rise of temperature and the intractability of the neuralgia her blood was examined, and the serum gave a marked agglutination of bacillus Typhosus. She was constipated, had no abdominal pain, possibly a slight enlargement of the spleen, but no other sign of Typhoid Fever, in fact no symptoms except the neuralgia. She vomited occasionally when the pain was at its worst.



On suspicion of there being antrum or dental affection, the practitioner called in the aid of a dentist, but treatment of the teeth did not give any relief. Since the second attack she had complained of a 'brow ache' on the left side. On or about April 15th she began to see double any objects more than 10 inches distant, and on examination there was seen to be a very slight internal strabismus of the right eye. In view of the occasional vomiting, marked frontal headache, and the signs of infranuclear affection of the right sixth cranial nerve, a tentative diagnosis of cerebral tumour was made; the discs were difficult to examine as the patient was very intolerant of Ophthalmoscopic examination, and no optic neuritis was made out. Another possibility suggested was Typhoid or post-typhoid neuritis, affecting the fifth and sixth cranial nerve.

Specimens of the urine and faeces were asked for for bacterial examination and the *Bacillus Typhosus* was isolated from the latter. In the course of time, fully another month, all the symptoms cleared up, the photophobia, the neuralgia and the strabismus, so the condition was in all probability a Typhoid neuritis.

The question as to whether the child had infected the mother or whether the mother was a chronic carrier and had infected her child could not be determined.

3. Lastly, it may be noted that in a former report of 3 years ago, an account was given of outbreaks of Enteric Fever occurring yearly at the Reformatory, some 15 to 20 cases arising each year. No carrier could be discovered among the inmates or workers there. It was decided therefore to inoculate all the inmates as a prophylactic measure. This has been most successful; the Medical Officer in charge tells me that for two years there has been no case among the inoculated, only one case occurred this year and that was a new arrival who had not received the vaccine.

*B. Vaccine treatment.*—A case representing very fortunate results of vaccine treatment also deserves a brief record.

A girl of 18 years of age suffered with dental trouble for a considerable period and for two years had had a chronic discharging sinus in the left upper alveolus. Scraping had been tried repeatedly, but the condition remained unrelieved, the sinus being too tortuous to clear properly. As a last resource the patient was sent up with a view to having an autogenous vaccine made. This was done and after the second injection there was considerable improvement and in three weeks the discharge was very slight. The patient did not come for further treatment for a month thinking all was well, but the discharge was then becoming more free so she had a further course of injections. The condition soon cleared up altogether and there has been no sign of any recurrence.

*C. Post Mortem.*—Lastly under this group mention must be made of three post mortem cases which presented features of special interest.

(1) A case of fatal laceration of the lung without any external marks of violence pointing to any pulmonary mischief. That the lungs may sustain serious injury from a blow, a fall, compression and so forth, although no external marks of violence are visible is a well known fact; nevertheless definite instances of such are still sufficiently rare to warrant the following being placed on record.

So far as I can ascertain from the literature at my disposal the concrete cases are few and none of them quite correspond with the one related below.

Thus in Husband's Forensic Medicine (7th Edition, revised by Buchanan and Hope p. 125) the general statements occur: "An internal organ may be ruptured and yet there may be no appearance of injury externally;" and again "Rupture of the lungs and brain is rare;" but no cases are cited.

Dixon Mann (Forensic Medicine and Toxicology, revised by Brend 1914, p. 299) passes over the question very briefly merely remarking: "Laceration of lungs, followed by hæmorrhage may be produced by external violence without fracture of the ribs. A boy was run over by a cab and died the following day, the ribs were uninjured but the lungs were extensively lacerated and the pleural cavity was full of blood."

Taylor in his principles and practice of medical jurisprudence edited by Dr. F. J. Smith (p. 430) has the following reference to and remarks on this condition:

1. A boy of 18 years of age was knocked down by a heavy cart and was supposed to have been run over. The post mortem revealed a complete separation of the upper lobe of the right lung from the root, but there was no trace of abrasion or bruising of the skin of the chest nor behind the ribs and sternum. Dr. Smith states that in his opinion the condition presumably resulted from a pinching of the organ "between the applied force and the bodies of the vertebrae . . . . . though there was no positive evidence (bruising of the bone) to support such a view." (p. 430).

2. A young man while riding fell from his horse on his left arm. Twelve hours later there was alarming flow of blood from his mouth and death occurred a few days later. Although there was no external mark of injury to the chest the right lung was found to be ruptured posteriorly throughout its length (Lancet November 1842.)

3. A boy 14 years of age fell from a height of 20 feet and died in three hours. With the exception of a fracture of the clavicle there were no marks of external injury. Nevertheless the right lung was ruptured to a depth of 4 inches into its substance. The same author mentions a case of laceration of lung without fracture of the ribs, caused by a carriage passing over the chest but no other details are given (Medical Times and Gazette 1862, 1, p. 68 cited in Taylor's Principles and Practice of Medical Jurisprudence).

The subject whose case I am about to describe, was a man L.R. of 25 years of age, strongly built and of good physique. He was walking in the street and talking to a friend about 8.5 to 8.10 p.m. on June 28th 1917, when they heard the sound of a motor car close behind them, and bearing down upon them. They jumped one each side; the friend who was on the right succeeded in getting out of the way, but the other was struck on the right side by the car and fell. It is uncertain whether the lamp or mudguard came into actual contact, but the witnesses of the accident were unanimous in stating that no part of the car passed over the patient's body. He was picked up insensible and driven in the car to the hospital which is less than quarter of a mile from the scene of the accident. He arrived at 8.20 p.m. and was found to be dead.



Superficial examination then showed wounds of the left side of the head, but no bleeding from the ears or mouth.

At the post-mortem carried out at 10 a.m. the next day, the following conditions were found:— With the exception of the head injuries described below there were no marks externally of any violence or injury. No long bones (including the ribs) were fractured, and there were no signs of any contusions or even abrasions anywhere on the body, back or front.

*Head.*—

1. A wound extending to the bone, 8 c.m. in length curving outward from the left malar eminence to just above the left eyebrow; the malar bone was fissured.
2. From the middle of this was a lacerated wound involving the outer half of the upper eyelid; the eye itself was not injured.
3. Extending from the root to the nose, a wound 3 c.m. in length passing upwards and outwards to the right; this was separated by a narrow bridge of skin from
4. A triangular wound of the inner canthus of the left eye; as if cut by the point of a stone.
5. A small lacerated stellate wound of the left parietal eminence down to the pericranium. From this site a fissured fracture passed through the occiput to the base, and there was a small subdural blood clot beneath the parietal eminence. The left orbital plate of the frontal bone was also fissured.

The brain showed no hæmorrhage whatever and there was no laceration of its substance.

On opening the Thorax the right pleural cavity was found to contain about  $1\frac{1}{4}$  litres of blood. This was removed and careful examination again made for any fractured ribs; all however were intact and there was no sign of any contusion of chest wall internally or externally.

The lung was then raised to the surface, and a tear was found in the lower lobe vertical in direction, some 6 c.m. long but not deep. The middle lobe was intact, but the upper lobe just above the line of separation from the middle lobe showed a piece of the lung tissue 7 x 5 x 4 c.m. almost completely severed; it was hanging by a mere thread of lung tissue and attached visceral pleura. The lungs were everywhere perfectly healthy, as were also all the other viscera, thoracic and abdominal. There were no pleural adhesions. The head injuries were not very severe and the rapid death was due to the laceration of the lung and hæmorrhage. The head injuries are easily explained by the effects of the blow on the right side throwing him to the ground, and the left side of the head coming into contact with stones in the road.

I cannot explain the mechanics of the lung condition. The man was certainly not run over, all the witnesses swore to that fact, and the deceased was a strongly built adult and the ribs were not very yielding and elastic like those of the child mentioned in the case previously cited, yet there was no fracture or even contusion visible; nor was there any obvious manner in which counterpressure could be applied; lastly the lung condition was not a mere superficial tear, nor a separation at the root, but an almost complete severance of a piece of lung tissue of considerable size at the periphery of the organ.

In the case cited by Dr. Smith the patient fell on to his left arm and "the right lung was found to be ruptured posteriorly throughout its length." This is the one most nearly analogous to my case in its absence of counterpressure but it differs in that the laceration in the latter (L.R.) was on the same side as and just beneath the site struck.

(2) A case of extensive wounds of the throat, larynx and trachea self-inflicted.

The suicide carried out his object in front of a crowd of people, but as it has been stated that one severe injury of the trachea precludes the person from inflicting a second on himself (in fact this has been used as an argument in favour of homicide as against suicide), I think this case worthy of record for if it had been perpetrated in the night or when no one was about to witness the act, it is more than likely that some unfortunate person might have been indicted for murder.

C.E.M. male, aged 25 years, admitted to Hospital at 5.55 p.m. on the 31st May with an extensive cut throat wound. He died 10 minutes later. At the post mortem the only signs of violence were those in the neck and were as follows:—

1. A long wound (probably made up of 3 or more) gaping and with jagged edges extending from the middle of one sternomastoid muscle to the other.
2. Small wound through thyro-hyoid membrane, horizontal.
3. Vertical cut 2 c.m. long through upper part of right side of the thyroid cartilage.
4. Incised wound 7 c.m. long passing to the right from the lower part of the left thyroid across the middle line extending right through.
5. Incised wound severing thyroid from cricoid and detaching lower part of right thyroid from the body of the cartilage. Deep vessels of neck not severed.

Left lung contained blood in the bronchi extending down from the severed wind pipe; and trachea contained blood and frothy-blood-stained mucus. Right lung somewhat less affected though in similar condition. Right pleura adherent at apex, and the lung beneath was infiltrated with tubercular disease over an area the size of a fives' ball. Finger tips and nails of right hand showed dried blood. Nothing else noticeable.

Comment is needless except to say that had not the deed been perpetrated in front of several witnesses one could hardly have credited that such extensive injuries could have been self-inflicted.

(3) A case revealing very clearly the connection between the so-called Vomiting Sickness and ackee poisoning:—

A.S. male, aged 3 years. Between the hours of 3 and 4 p.m. (August 9th) he was seen to be eating ackee, shortly after this vomiting started and continued repeatedly till he was brought to the hospital at 8 p.m. When seen at 8.5 p.m. he was still vomiting; the vomitus consisting of mucus and yellowish undigested food. The pulse was low and the extremities were cold. Temperature 98°. The stomach was washed out and stimulants freely administered. He improved greatly to all appearances but about 1.30 a.m. (10th vomiting and retching returned, coma rapidly supervened, the Cheyne Stokes type of perspiration was noticed and the child died at 2.30 a.m. No convulsions were reported.



At the autopsy on August 10th a.m. the body was found to be that of an exceptionally well nourished child.

*Stomach.*—The mucous membrane of the stomach was congested especially towards the cardiac region. The organ itself was practically empty there being merely a little mucus and a few minute yellow masses. Duodenum and upper part of the intestines had similar contents (Ackee fragments).

Peyer's patches were prominent and mesenteric glands slightly enlarged and pinkish in colour.

*Liver.*—Was of a purple red colour over a considerable part of the surface; in other parts and on section of these congested areas the tissue was seen to be very yellow and fatty almost the colour of cornmeal.

Pieces of the following tissues were taken in alcohol and also in Flemming:

Liver, kidney, spleen, pancreas, heart muscle. All the tissues showed the changes which have been described in detail in the monograph on the vomiting sickness. This is a valuable case in that the symptoms were typical of the "Vomiting Sickness" as were also the post-mortem findings, both naked eye and microscopical and the child had actually been seen eating the fruit shortly before the onset of the illness.

### III. SPECIAL INVESTIGATIONS.

#### 1. An acute outbreak of "Central Neuritis" at Spanish Town.

A brief mentioned was made at the end of my last annual report of a peculiar epidemic which was occurring in the Spanish Town District. The condition was given the title tentatively of the Spanish Town epidemic because the disease was first notified from this place by Dr. C. Redwood White, and the majority of cases occurred there. It must be distinctly understood, however, that subsequent enquiries have shown that the condition is also met with elsewhere and moreover there is a considerable weight of evidence to support the thesis that the "Spanish Town epidemic" represents the acute stage or an acute onset of the disease, which, when it has become chronic, has for a long time been designated in Jamaica as Peripheral Neuritis.

*General History.*—Nearly all the patients are adults. Of a large number of cases seen there were but three children, and they were far from typical in the symptoms they exhibited. The youngest patient coming under my observation was a girl of 14 years of age.

All of those attacked during the epidemic were of the peasant class, that is natives who worked as labourers on the sugar estates or who in rare instances had small holdings of their own. Males and females were equally affected. The epidemic started during the cutting and carrying of the cane crop, and the reporting of fresh cases ceased almost abruptly as soon as the crop was finished.

The following is a brief general description of the main features of the condition; differences shown by individual cases will be noticed in the detailed account of such.

In practically every instance the first symptom complained of was a sensation of "itching in the eyes." This would come on with comparative suddenness while the patient was at his usual work. In some cases both eyes would be attacked about the same time, in others one eye would be affected alone at first, and after an interval of varied length from a few (3-4) hours to as many days similar sensations would be felt in the other eye. At this early stage the conjunctiva would be congested and there would be photophobia, but not of much intensity. Within the next three days or so the conjunctiva, both ocular and palpebral, would be in a swollen, red, cedematous condition, the edges of the lids would show abrasions, and small superficial ulcers would form with discharge of pus.

Within four days to a week of the onset of the eye symptoms, a burning sensation in the mouth is complained of. This is referred to the mucous membrane of the lips and cheeks, but not the tongue. The lining membrane becomes red and inflamed and aphthae make their appearance, especially along the edges of the mucous membrane of the lips. At the angles of the mouth a small ulcer or fissure is often present. Salivation is not a common feature. I noticed it only once in the 21 cases detailed, and did not observe it in any of more than 100 other patients seen at the hospital.

The soreness of the mouth gives rise to pain on eating for the first 24 hours or so; after that, in spite of the congestion and ulceration, food is taken without any difficulty or complaint. This soreness is by the patients themselves often contributed to eating sugar cane.

The affection of the eyes was usually treated by yellow oxide of mercury ointment and the conjunctivitis cleared up fairly readily. For the stomatitis a mouth-wash containing Chlorate of Potash and Boric acid soon gave relief.

The above was the sequence of events at the onset in almost every case. One patient stated that the mouth was affected before the eyes, but this was the only exception.

No further symptoms develop during the succeeding week or so, in other words till about 14 days after the first onset with itching sensations in the eyes. After this interval, however, further symptoms declare themselves and the cases naturally relegate themselves to one or two categories.

1. Those with *diarrhœa and intestinal symptoms*.—These patients have loose actions increasing in frequency to as many as 25 in the day. Of those so affected, some die in a few days apparently from exhaustion, others slowly recover. No treatment seems to benefit the diarrhœa which appears rather to cease gradually and spontaneously in those who recover. In the latter no further symptoms occur and recovery seems to be complete. The stools are watery, and brown in colour.

2. *Those with nervous symptoms*.—These patients are invariably constipated. As far as I myself observed, and from the histories of a large number of cases reported to me by the Medical Officer in charge of the hospital, in all of those exhibiting nervous symptoms constipation was the rule, and as a corollary to this, in none of the cases belonging to the preceding class (Intestinal cases) did any nervous symptoms develop.

The following gives a general resumé of the progress of 'nervous' cases.

The patient states that he feels a sensation of numbness and tingling starting in the toes and soles of the feet, occasionally accompanied by a feeling of heat and burning. The numb sensation slowly extends over the dorsum and up the legs to the knees—in some patients to the hips. Both limbs are



affected together and the spread is equal in both; in other words the legs appear to be affected segmentally, symmetrically, and simultaneously.

Some patients state that they feel "pain in the knees" but this is only complained of when movement of the joint is carried out. Palpation is quite painless, and there is no heat, redness, or swelling, in fact no objective sign of any joint trouble. With the spread of the numbness walking begins to be impeded and in the course of 3 or 4 days, when the condition has extended to the knees, walking is impossible. The patient can no longer stand unless supported, there is marked incoordination and the patient has practically no control over the lower limbs. When supported and assisted in getting out of bed the legs are thrown about with wild, exaggerated movements. In some cases, in the intermediate stages, between the "delicate," unsafe gait of early numbness and the later total inability to walk, the gait is suggestive of that of Tabes. Also at this stage there is no real loss of power, the knee-jerks and other deep reflexes are quite abolished, Babinski's sign gives no response normally in a native owing to the horny thickness of the soles caused by their walking barefoot. Sense of position is not always, or even often, defective, although spontaneous disposition of the limbs is no longer possible.

In spite of the general complaint of numbness over so large an area, no alteration of sensation could, as a rule, be detected objectively. With the eyes bandaged, the responses to finger-touch, to cotton wool, pin-head, and pin-point were correctly estimated and localised.

The differentiation between heat and cold even with a fairly wide difference of temperature was frequently defective. Although no change of sensation, at least no recognisable blunting of the sense of touch, was observable objectively I noticed more than once in those who were still able to walk that one or both slippers might come off the feet and yet the patient would continue his progress down the ward without them or with one off and one on, and not notice the loss until he happened to look down and discover that he had left one slipper behind, when he would return for it.

The difficulty of walking was not made worse by closing the eyes, nor again did the patients watch their feet to help their progress.

Some cases remain in this condition, but in others a similar sensation of numbness is complained of after a further interval of 1 to 4 days or more, and, in a few, the backs of the hands, the forearms and occasionally the upper arms are affected also.

In the worst cases there was some difficulty of speech, due, as the patients described it, to numbness of the tongue. No numbness of the face was mentioned by any of the patients. No alteration of sensation could be detected in upper limbs or tongue by objective tests.

In those cases which terminated fatally after a considerable period (4-6 weeks or more) there was marked general emaciation; no localised wasting of muscles could be detected at any time. The reaction of degeneration was not found in any instance, though in some there appeared to be a slight alteration in the nature of a less brisk response than normal but nothing very tangible could be made out.

Some of the patients with nerve symptoms complained during the early stages of "pain in the stomach" and described it "as if someone was pulling a rope tight round the chest." It was clearly the nature of a girdle-pain and only occurred in the second group of patients—those with nervous symptoms not in any of these with diarrhoea and intestinal symptoms. This pain was not aggravated by food, in fact the patients ate well without any discomfort.

The last stage of the fatal nervous cases was always the same. About 48 to 72 hours before death, when the patients were lying helpless in bed, diarrhoea would set in, and the exhaustion from the combined inanition, emaciation and diarrhoea soon brought about the fatal issue. Even towards the last, though the patient lay helpless and to all appearances totally paralysed, nevertheless there was not in reality a condition of paralysis, all movements could be performed, though feebly on account of the emaciation and general state of exhaustion.

Certain residual symptoms were noticeable in some of those who recovered after a considerable period of illness. These were in the main three:

1. Dimness of vision, usually spoken of as "a darkness in front of the eyes."
2. A certain degree of deafness, which usually increased as time went on, although the other symptoms might clear up almost completely.
3. A peculiar steppage gait, but without drop-foot, an exaggeration of movement of the legs but without the tabetic stamp; and not as a rule with a wide base.

A large number of examinations both clinical and pathological were carried out in connection with these cases. Over 100 patients must have been seen and examined clinically, but 21 were fully investigated. Specimens from these took 6 months to complete from the examination point of view. Blood examinations were made, both total and differential counts serum reactions by the Wassermann test; the excreta were tested and cultivated, eye, mouth and throat cultures carried out, and from those who died parts of the various tissues were subjected to examination in detail. My thanks are due to Dr. Ross, the Senior Medical Officer at the Hospital, Kingston, who very kindly visited Spanish Town with me and administered anaesthetics to several of the patients to enable me to procure specimens of the Cerebro-spinal fluid for bacteriological and serological tests.

A detailed account of all the cases has been sent to the Right Honourable, the Secretary of State, for the information of the Tropical Diseases Research Committee, together with an exhaustive discussion as to the nature and causation of the condition and a series of microphotographs illustrating its morbid anatomy.

No useful purpose would be served by going into such detail here, but it may be of interest to set down the résumé of this disease as it was summarised for the fuller report:—

#### *Summary:—*

1. A certain epidemic broke out in the earlier months of this year among the labourers on a sugar estate in this island.

2. The onset in each case was sudden, the patients being attacked while at work and apparently in good health.



3. The initial symptoms in all cases were conjunctivitis and stomatitis.
4. Thereafter the patients could be readily divided into two categories: (1) with intestinal symptoms; (2) with nervous symptoms.
5. The diet of those affected consisted exclusively or almost exclusively of sugar cane.
6. The cane tops which are cut or broken off are covered with small hairs which are very irritating and may have set up the original conjunctivitis and stomatitis, and, when swallowed, the subsequent diarrhoea.
7. Fresh cases ceased with the cessation of the crop or almost immediately after.
8. No case with early diarrhoea exhibited any affection of the nervous system.
9. Nervous system cases were always constipated until the last two or three days before death.
10. Wassermann reactions with both the blood serum and the cerebrospinal fluids were invariably negative.
11. Blood examinations revealed very little abnormality as regards total counts; differential leucocyte counts showed in all cases a marked relative lymphocytosis.
12. Arneth Index was very little different from what is found normally in natives in the tropics.
13. The morbid anatomy of the nervous cases is typical of a "central neuritis."
14. There is no reason for thinking that the disease is pellagral in nature or has any relation with Pellagra.
15. There is no reason for regarding it as Beriberi.
16. There are many contraindications to the condition being a new form of "deficiency disease."
17. There is every reason for considering these cases as representing the acute form or acute stage of what has for many years been erroneously spoken of as "Peripheral Neuritis" in Jamaica.
18. There is no positive evidence that the disease is microbial in origin, at least not a bacteriaemia.
19. All the signs and symptoms tend to point to its being a condition of "Intoxication."

All that we are justified in saying in our present state of knowledge is that the history, course, and post-mortem findings in the Spanish Town epidemic and in the (wrongly) so-called Peripheral Neuritis cases indicate that the condition is that of a "central neuritis" due to some toxin possibly microbial, more probably not, affecting mainly workers on sugar estates and again possibly due to the growth of some fungus or parasite upon the suckers (tops or leaves) of the canes.

2. Of the investigation which was begun in October, relative to the certain aspects of the protozoal infection of the intestinal tract, I will not deal, as this had barely been begun when I was ordered to hold myself in readiness to investigate a fresh the question of the Vomiting Sickness as soon as it started.

### 3. THE SO-CALLED VOMITING SICKNESS OF JAMAICA.

When the third hurricane in three successive years struck this island in September last and destroyed a large proportion of the natural food-stuffs one predicted that the out-break of the so-called "Vomiting Sickness" would probably be both severe and widespread in the succeeding cooler months. This prophecy has been only too amply fulfilled. With a view of minimising the disastrous effects of this disease placards were printed and distributed all over the island warning the people of the dangers and notifying them of the precautions which they should take to mitigate the ravages of this epidemic. A copy of this notice is appended. Since, however, many, in fact the majority of the inhabitants were still sceptical of the fact that vomiting sickness and ackee poisoning were synonymous terms, His Excellency, the Governor, issued instructions that I should visit the various districts in which cases occurred and carry out fresh investigations into the condition.

It is gratifying to be able to state that the fresh investigations have absolutely confirmed the results of my former work, though at the same time it is a matter of regret to have to state also that the inhabitants have paid a heavy toll for their scepticism.

The outbreak this year has been exceptionally severe as the following record of cases proves, but whereas in former years the mortality has been exceedingly high (between 80% and 90%) in this last outbreak, although the number of persons attacked has been far higher, the mortality rate has been very greatly reduced. This can only be attributed to the propaganda issued in the shape of the pamphlets and notices spoken of above.

When carrying out my investigations this year it was quite a common occurrence to find that though several members of a family might be attacked, only one, perhaps none, might die, the prompt treatment and precautions recommended having led to the recovery of the other members, and thus to the saving of many lives. At a rough estimate obtained by making enquiries when one was investigating a case, it would be safe to say that the mortality rate, in spite of the greater incidence, is more in the neighbourhood of 30% than 90%, in other words some 250-300 lives at least have been saved. Though this is a matter for congratulation, it is not enough. My investigations this year as already stated, and as the records gives in the sequel prove, have shown that, putting out of the category of diseases which have been hitherto returned as "Vomiting Sickness" those which are well known, such as Cerebral malaria, Meningitis, Gastritis, and so forth, by far the largest proportion of the residue are cases of ackee poisoning.

The ackee, the fruit of the *Blighia sapida*, is an excellent food and quite harmless when used with caution and when properly prepared, but when improperly gathered, when carelessly prepared, when eaten in an immature state, it is a deadly poison, probably one of the most deadly known.

To get this fact to penetrate is uphill work. The natives and Europeans also have been accustomed to eat this fruit for many years. The latter are exceedingly cautious in the gathering and preparation of it, and will rarely eat it unless plucked from trees in their own gardens and under their personal supervision, and consequently cases of poisoning amongst them are rare. The native, however, is not so careful; consequently he and his are the greater sufferers. As soon as the people generally can be made to understand the conditions under which the food can be eaten with impunity and to follow out the precautions necessitated by these conditions, ackee poisoning cases will become less and less, and may even be abolished altogether and the dread vomiting sickness be a thing of the past, and hundreds of lives saved which are now needlessly one might almost say, wantonly, thrown away. The difficulty is this



The fruit has been eaten for many years, and these mysterious sudden deaths have occurred year after year but the two things have never been connected until one's investigation and experimental work of 1915 onwards had the fortunate results of elucidating the matter. These deaths were and even are now attributed to worms, to cold (in the tropics!), to starvation (although the majority are well nourished), to duppies and evil spirits and to obeah. This last is not an imaginary danger, for the poison almost certainly belongs to the Toxalbumin or phyto-albumose (phytoxin) group in common with Ricin, Crotin, Abrin and Robin for which no distinctive test is known, and may be used for purposes of homicide with little risk of detection.

These points, however are side-issues; what one would impress upon the people is that if the precautions recommended were conscientiously carried out, vomiting sickness and ackee poisoning would disappear from the record of causes of death and hundreds of lives would be saved. Even this year with a large incidence of cases the reduction of the mortality by some 50% is gratifying in showing that one's efforts have not been altogether fruitless and gives ground for the hope that further propagandist efforts may lead to total eradication of the disease in epidemic form.

I would like to acknowledge the help which has been afforded me in this last investigation by the various Medical Officers who took the trouble to make personal enquiries as to the histories of the cases, particularly Drs. Campbell, Purchas and Watson in Trelawny; Dr. Dryden in Clarendon; Dr. Wilson in St. Ann's; Dr. Gideon in Portland and Dr. Crooks in St. Andrew.

Direct questioning of parents in nearly every case is met at first with a flat denial of the use of the food at the meal preceding the illness. The reason for this are three:

1. The child may have picked the immature fruit and eaten it without the parents' knowledge.
2. The use of the term "Ackee poisoning." When the police make the preliminary enquiries before an autopsy is ordered, the native is afraid that he will get into trouble either for not looking after the children carefully, or on the graver charge of "poisoning" the children.
3. They fear that, if it is acknowledged, the trees may be cut down and they will thus be deprived of a useful and palatable food.

The denial is valueless. In many instances at the post-mortem examination ackees are found in the stomach. In this connection the following extract from a letter sent to me by a District Medical Officer is of interest: . . . . . "I may mention that in the past there have been several instances at post-mortem in which ackee has been found by me in the alimentary tract, but out of several only in one case did the relatives admit that the child ate the ackees." . . .

If the vomiting has removed these, confirmation of the suspicion is often found by examination of the kitchen, where ackees ripe and unripe, and husks of those which have been recently used, are seen. Many examples of this are afforded by the brief histories given in the fuller report. Fortunately although there is no known chemical test for proving the presence of the poisons of this class in the tissues, the microscopical changes are so very marked and characteristic that they are unmistakable. These changes need not be given in detail here, they have been described in my former reports and monograph on this subject.

In a detailed report sent to the Tropical Diseases Research Committee full accounts of all the 172 cases either seen by me or brought personally to my notice were given, but this cannot be done in the present report. The essential points are set down in the accompanying Table and where the statement in the "Remarks" column occurs "For details see text," the fuller detailed report is there referred to. In order to make the investigation as complete as possible, I requested that autopsies might be carried out on all cases terminating fatally and that tissues should be sent up to the Laboratory for sectioning. As will be readily understood this has entailed an enormous amount of work, especially when one is single handed and the routine work had to be dealt with at the same time.

However, the response to my request was almost universally acceded to; in the majority of cases the post-mortems were ordered and specimens sent. I regret to say that in one district in the island where cases are rare, burial was ordered and post-mortem examination refused, but this is almost the only place where full investigation was negatived.

The Table then, Table X, appended to this report has been compiled in order that the salient facts may be brought together in an easily comprehended form and in order that general conclusions may be deduced from the large number of patients affected in this epidemic.

Two or three points only need be especially insisted upon. The most important of these is the fact that of all the cases which have been reported to me as vomiting sickness in this epidemic, there was one case of Fish poisoning, terminating in recovery, one of ptomaine from fish in which, however, ackee was a part cause of death; two of Gastritis, both recovering; one fatal case of Scarlatinal nephritis; seven of malignant malaria, only one of which recovered, and one in which death was due to ackee during the course of a malarial attack, and one from gastro-intestinal troubles associated with dentition. There fore of the 172 cases all but 14 were cases of ackee poisoning, and in two out of these 14 ackee took part, although not being solely responsible for the symptoms, in other words in the recent epidemic out of 172 cases which were brought personally to my knowledge as "Vomiting Sickness" no less than 158 or 91.86% were instances of ackee poisoning.

This in a nutshell is the final corroboration of my discoveries of 1915, the proof of what I put forward then merely as a theory that Vomiting Sickness, the true vomiting sickness which was recorded as accounting for so many deaths each year, was nothing more nor less than Ackee poisoning, the fruit of the *Blighia sapida* used in an unfit, immature condition for food. Experimental work carried out with extracts made from these constituted the proof and has been already recorded and need not be narrated again in the present report.

It is high time then that this reprehensible term of Vomiting Sickness be expunged from theomenclature of diseases in this island, for the labelling of a disease by the name of one symptom, which symptom even may be absent, hinders advancement and leads to carelessness in diagnosis. This state of things would be analogous to diagnosing "death from headache" when the patient may have suffered from the headache of typhoid fever, or that of cerebral tumour, or that of uræmia, and so forth, and disregarding the origin of the headache. Seeing that the macroscopica and still more the microscopical anatomy



of the condition of ackee poisoning is so marked and distinctive there is no longer any excuse for not separating these cases from the large non-descript group of "Vomiting Sickness."

The poorer people may be excused for using the term just as they use the term "fever" for practically all conditions from malaria to stomach-ache, but there is little or no excuse for any medical man to employ the term, since it is indicative of either (a) insufficient examination in not detecting abnormalities post-mortem, or (b) a false conception of what is meant by "diagnosis," in thinking that by naming a symptom they diagnose the disease, or (c) want of interest in not enquiring properly into the history, or, where there is any doubt, in failing to send tissues to the Laboratory where they can be examined and reported upon at no charge or trouble to themselves; and in my future reports should cases of Ackee poisoning call for special mention they will be spoken of as such and not again as so-called "Vomiting Sickness."

Seeing that the facts are now definitely established, that the knowledge of them is gradually permeating through the people even to the most sceptical, such an epidemic as this last should never occur again.

I think, therefore, that this is a fitting place to give a brief summing up of the whole matter of the dread Vomiting Sickness, so-called, which had been the cause of hundreds, nay, thousands, of deaths in Jamaica during even the 32 years of which records have been kept. In some years there may have been only 100 or so, in others as many as 400 cases with a mortality of 80% to 90%, so that by the moderate estimate of an average of 150 per annum, there will have been the loss of nearly 5,000 lives since the disease came into prominence in the records of 1886. How many occurred prior to that date is a matter of guess work only.

The next point is brought out by Table XI showing the age incidence of cases. The relative proportions affected in 144 cases in which the age and sex were stated are shown in the Table dealing with age and sex incidence.

As regards *Sex*: of 165 cases 96 or 58.18% were females, while 69 or 41.82% were males and the table shows that below 5 years of age there were 37 females to 31 males; between 5 and 10 years 19 of the former and 16 of the latter; in the second decade there were 12 females to 10 males.

The question of *age* is important: Of the 144 cases 68 or 47.22% were below the age of 5 years; only three patients under 1 year suffered. Another 35 were below the ages of 5 and 10 years, giving a total of 103 or 71.53% in the first decade, and more than four-fifths of the total were children below the age of 15 years.

Next: The duration from the first appearance of symptoms until death occurs may be very short; in one case, J. DeV., it was only half an hour, in another, E.W., it was an hour, and the average duration of all the cases in which this was ascertainable with accuracy works out at 15½ hours.

Lastly: I beg to report that unless the people are wilfully careless, or wilfully ignorant such an epidemic at this last should never occur again and to form a fitting summary of the whole question I submit the following remarks which, taken in conjunction with my previous reports on the so-called Vomiting Sickness of Jamaica will enable any enquirer in the future to make himself cognisant of all the salient facts of the hitherto mysterious condition, clinical, pathological and experimental.

The separation of the toxic principle, the devising of chemical tests for identification of that principle are matters for the Chemist and the physiological botanist, and are out of my domain.

For the purposes of this summary to avoid vain repetition the question will be dealt with under the headings of:

1. Prior to 1915.
2. The investigations of 1915.
3. Further points brought out by the 1918 epidemic.

1. *Prior to 1915.* The minuter details of this are given in my reports of April and October of that year, to which reference may be made.

Briefly this period may be summed up as follows:

The disease had existed for many years, particularly prevalent in the cooler months, November to March or April, and in each year it had been responsible for a considerable number of deaths, and in some years had exacted a terrible toll among children.

The earliest records which I have been able to trace date from thirty-two years ago, when the non-committal but descriptive name of "the Vomiting Sickness" was given to a condition which was beginning to command respect owing to its mysterious nature, its sudden onset, and its high mortality rate (80 to 90 per cent.).

Tracing the history of the disease from that time (1886) to the present has been an interesting study, but it must be passed over to enable us to come to more important matters. Briefly, the period 1886 to 1915 may be summed up by saying that, during the season in which the disease was usually prevalent, any child that died after vomiting was diagnosed (by some practitioners) as having suffered from vomiting sickness while other medical men, rightly scorning so indefinite a term, erred in signing up true vomiting sickness cases as having died from gastritis, yellow fever and so on; while yet a third group fortunately a small one—on attending patients with some obscure condition terminating fatally would sign the certificate by the delightfully safe but paradoxical diagnosis, "vomiting sickness without vomiting."

In 1906 letters were sent to the other West Indian Islands asking whether any such or similar disease was met with there and the replies all went to prove that the condition is practically limited to Jamaica.

So serious were the ravages of the disease that, in 1910, an expedition was sent out from England to investigate it, but without result, and again in 1912, a second expedition was made, which in turn went back baffled.

## II. INVESTIGATIONS OF 1915.

In February 1915, a severe outbreak occurred on the north side of the island, and eighteen deaths took place in a small district in two days, and I was sent down to investigate the matter on the spot. I had the good fortune to see a considerable number of cases some almost from start to finish, and to



perform autopsies on all who died during my stay in the district. I visited the huts where cases had occurred, and interviewed survivors and the relatives of those who had died. Briefly the symptoms of the condition are these:

The patient—almost invariably a child—in apparently perfect health, suddenly complains of feeling ill, and occasionally of pain in the stomach. This is usually mere discomfort and not, I believe, actual pain, but, as the native tersely puts it, “him belly trouble him, doctor.” He then vomits; perhaps only once, perhaps three or four times at short intervals. Recovery then seems to take place, and, if the attack occurs at night, the child drops off to sleep, apparently well again. Some three or four hours later, (occasionally after a longer interval) the child wakes up, again complains of feeling sick, and begins once more to vomit, usually frothy mucus, and later watery fluid only, or it may be bile-stained. There is little if any accompanying effort, unless the stomach be empty, when troublesome retching may ensue. Within a very short time, often a matter of a few minutes only, convulsions make their appearance, coma rapidly supervenes, and terminates in death.

Recovery from the first attack of vomiting being to all appearances complete, a doctor is not usually summoned until the relapse occurs. The majority of patients, therefore, first come under observation during the convulsive or comatose stage. The temperature is usually normal or subnormal; the pulse is of good volume, and rate is 90 to 100 per minute; respiration 26 to 30, and regular until towards the end, when the Cheyne-Stokes rhythm may be noticed. The pupils are equally, moderately dilated, and, if the coma is not too deep, react to light. There is no delirium, and, shortly before passing into the comatose stage, the child may remark that it feels very bad, but does not call attention to any particular symptoms or complain of any localised pain. There is no rigidity in the true vomiting sickness cases (except, of course during a convulsion) but a general limpness of muscles; movement, such as turning the patient over for examination purposes or to obtain fluid by lumbar puncture, frequently leads to a repetition of the vomiting.

Such is the picture of the majority (80 to 90 per cent.) of such cases, for the mortality rate is very high. In the rare instances which recover the vomiting is practically the only symptom. I have never met with a recovery when once convulsions or coma has set in. Recovery when it occurs is very rapid. Within twenty-four hours or so, a child who had appeared to be seriously ill may be up and about, showing nothing but a little pallor and debility, as after any severe bout of vomiting, while others in the family, who did not seem any worse at the time, have passed into a state of coma and died in a few hours.

A few of the symptoms merit a little more detailed description:

1. *Vomiting*.—This may be, and usually is, the first objective symptom. The nature of the material vomited is usually at first food or if a considerable interval has elapsed since the last meal (and this is uncommon), frothy mucus, then watery matter, later bile-stained. At times the vomiting may be replaced by troublesome retching. Next, as regards the times at which vomiting occurs. In a typical case, vomiting takes place at the onset, and may be the very first symptom. It is usually accompanied by considerable effort and is repeated two or three times, at short intervals. This I have termed the “initial vomiting,” and gives one distinctly the idea of an effort on the part of the stomach to rid itself of some noxious material.

After an interval of calm, during which there are practically no symptoms, there is a return of the vomiting, and now it is of a different character. It is, to a great extent, effortless, and may be unaccompanied by nausea. This I have designated the “secondary vomiting,” and it is in my opinion, cerebral in origin, owing to its character of being effortless and induced by movement, and to its being followed almost at once by other nervous symptoms, twitchings, convulsions, and coma.

Initial or secondary vomiting may be absent. Thus, as stated already, the former only is seen in cases which recover—in other words, the patients never reach the stage when the secondary cerebral symptoms appear. On the other hand, this “initial vomiting” may be suppressed in the very rapid and acute cases. There is an attack of vomiting which is so rapidly followed as to be almost accompanied by the convulsions and coma, the entire symptoms being cerebral, owing to rapid absorption of the toxin from an empty stomach. Death in these cases may occur in an hour, or even less. More rarely, the secondary attack of vomiting is suppressed; the patient may pass through the initial attack and appear to improve; then after a considerable but varying interval, he is seized with convulsions, passes into the comatose stage and dies.

Lastly, vomiting may be absent, and the cerebral symptoms may be the first indications of anything wrong. For example, I have among my notes the following case: A child, four years of age, was quite well when she ate her dinner at 1 p.m. Two hours later she felt out of sorts and went to lie down. An hour or so afterwards her mother went to waken her, but could only partially do so; twitchings of limbs and slight convulsions came on, and the child lost consciousness altogether and remained comatose till death.

Such cases have been diagnosed somewhat paradoxically as “vomiting sickness without vomiting,” and I am sure that they do occur, though with exceeding rarity. Such a diagnosis, however, could not be made unless, firstly, true vomiting sickness cases were occurring at the time; secondly, all other causes could be excluded; or thirdly, the post-mortem signs, especially the microscopical were those of vomiting sickness.

2. *Convulsions*.—These may vary from merely slight twitching movements of the limbs to definite massive convulsions. They may be tonic muscular contractions lasting for a few seconds only, or more clonic, and epileptoid in character. Looking over my notes in cases which recovered, slight twitching movements occurred in one patient only, a child of four years of age. We have all of us seen slight twitching movements in a child asleep, in ordinary health, or possibly with a little dyspeptic disorder. With reference to the vomiting sickness one may safely say that in no cases which recover are convulsions seen.

3. *Coma*.—In most of the cases which I have seen this has been deep; as a rule, there was absolute unconsciousness with absent conjunctival reflex. In some, at an earlier stage of the coma, there was general flexion, and some irritability was exhibited when attempts were made to rouse the patient; but this “cerebral irritation stage” was transitory and soon passed into one of deep coma.

A few remarks may be added on the question of age, sex, and duration of illness. These all refer



to the 1915 investigations with which this section deals and are corroborated in the essential features in the 1918 epidemic (see next section).

*Age.*—The condition is, to a great extent, one of childhood; sucklings are not attacked. I have records of only three cases under the age of twelve months, and these were not breast-fed. Nearly half the cases (44.84 per cent. of my series) occur in the first quinquennium, another 30 per cent. in the second and 85 per cent. of cases are under the age of 15 years. The mortality rate is high in all these periods; thus, of those under five years, 85.06 per cent. died; of these between 5 and 10 years, 86.21 per cent. died; and 84.24 per cent. of those attacked under fifteen years succumbed.

*Sex.*—The affection shows no predilection for sex. Thus, in the first decade 45 per cent. of those attacked were males and 55 per cent. females; and the death rate was closely similar, 46 per cent. and 54 per cent.; while in the third quinquennial period, of 58 cases of which I have full notes, 30 were males and 28 females; of these 50 terminated fatally, and this number was contributed to equally (25 each) by males and females.

*Duration of Illness.*—In 140 instances I have been able to obtain reliable account of the duration of illness. The shortest recorded was in a female child 1 year, death taking place in thirty-five minutes. The average duration of the total number works out at 12.72 hours. Sex has no influence on duration for although of those whose duration is given 82 were females and 58 males, the length of illness from the time of onset to death—including, when present, the period of calm—works out at 12.5 hours in the case of males and 12.89 hours in females, a difference of only 23 minutes.

It will not be time wasted if I briefly recapitulate the symptoms by shortly describing four cases exhibiting the different types:—

1. A mild case: a girl, nine years of age, was given some "soup" from boiled ackees and bananas at noon. At 2 p.m. she complained of pain in the belly and vomited. This vomiting continued on and off for three hours. She was seen by a medical man, who gave her a mixture containing ether and ammonia. The vomiting ceased, and the child had quite recovered by the following evening.

2. A male, aged three years, in normal health when he was given an evening meal of the soup made from bananas, yams and ackees. Two hours later, without any complaint of pain, he vomited. He rapidly recovered from this, and appeared quite well on being put to bed an hour or so later, and slept well till just before dawn. He then without any warning suddenly vomited again, was shortly afterwards seized with convulsions, and coma supervened, which lasted till death at 11 a.m. The total duration was 16 hours; there was a symptomless intermission of 8 to 10 hours, and death occurred in 5 hours after the onset of the secondary vomiting. Here we have an example of a case apparently quite mild at first, but nevertheless terminating fatally.

3. A girl of six years, after a similar meal, went to bed in her usual good health. Early in the morning, without any warning or previous complaint, she suddenly vomited, and did so three times in the course of an hour. During the day she stayed in the house and did not feel quite well, but took food. She seemed better in the evening, and slept well during the night. Early the following morning, without warning, again she started vomiting, frothy watery material, without any effort. A few minutes later she was attacked by convulsions and passed into a state of coma, dying at 2 p.m. This case resembles the last, but differs in the longer duration of illness, and in the fact that the interval was one of improvement, not total abatement of symptoms.

4. A girl of 12 years left home in good health for school, three miles away. At midday she had a meal containing ackees, and returned to school, where nothing amiss was noticed, until three hours later she started to vomit; this occurred four times. Feeling better she started for home, but during the walk she felt ill again and vomited at intervals, taking three hours to make the three-mile journey. Shortly after arriving she became drowsy, this drowsiness deepened to coma, and she died about midnight without recovering consciousness. Here we have an example of a case in which convulsions were absent.

The rare condition of "vomiting sickness without vomiting" has already been described.

Passing on to the pathological findings. For a detailed description I beg to refer to my monograph on this subject in the *Annals of Tropical Medicine and Parasitology* of 1916 where a full account of the morbid anatomy, macroscopical and microscopical will be found.

The changes set up are very widespread, and may be briefly summarised as follows:—

Hyperæmia of most of the organs, including the meninges, with oedema of the supporting tissues; there is a tendency to hæmorrhages evidenced by small extravasations, e.g., in kidneys, adrenals, lymph glands, spleen, lung; the epithelium, particularly of the kidney tubules, the pancreas and liver, shows necrobiotic changes; and, lastly, and most important, is a marked fatty change in many organs, notably the liver, kidneys, sometimes in the cells of the pancreas and heart muscle, and the large Betz-cells and others in the brain.

Of course, in a disease such as this, which becomes epidemic every year, bacteria have been suspected and carefully looked for, without result. In fact, during the course of my investigations of 1915 I stated "in my opinion the disease has no bacteriology. The organisms which have been found in some of the patients (a small percentage only) I can see no reason for regarding as in any way causative." The absence of prodromata, of any true incubation period, the serious and extensive lesions, the negative results of attempts frequently repeated at finding or isolating any organisms, all made me incline to the opinion that the condition was not a bacterial infection, but a pure intoxication, and the sequel bore out the surmise.

To sum up the 32 cases which came under my notice in this outbreak in the small district on the north side of the island: in 17 the attack followed closely on the ingestion of ackees or a watery extract (soup or pot-water) made from them. In eight others there was a strong probability that ackees comprised one of the constituents of the meal prior to the onset of the illness. In these instances the parents had had a meal containing ackees and the children "may have had some." In the remaining seven cases no definite history of the food could be obtained; but I visited the huts in which the cases had occurred and noticed in every instance, without exception, that trees bearing ripe fruit were growing in the yards, and it is most unlikely, to say the least, that such a food, ready at their very doors, a food of which they



all are fond, and which was then ripe, would be avoided, especially at a time when other articles of food are scarce or at least relatively expensive. In none of the 32 then could the eating of the fruit be definitely excluded.

The next point was to make enquiries concerning the ackee, the fruit of *Blighia sapida*, which is used to a considerable extent as an article of diet in Jamaica. Amongst the better classes the ackees are gathered carefully, one by one, and only those which are properly opened and appear ripe and sound in every way are taken for food. Unopened ackees are not used by such people, nor any which have not opened naturally on the tree or have been gathered from an uninjured branch; those forced open after falling from the tree unopened are dangerous. Among the poorer people, however, less care is taken, and a boy is sent up the tree to shake down the fruit; ripe and opened and unripe unopened fall together; the former is collected and the latter left. In time, some of these may open and be gathered with fresh ripe ackees brought down at the next shaking. This point is referred to again and in greater detail in the next section.

By the time the investigations into the Montego Bay outbreak and the examination of the various tissues taken post-mortem were nearing completion, I considered that sufficient evidence had been presented to warrant the bringing in of a true bill against the ackee, sufficient, that is, to put it on its trial, so experimental work was started with this end in view.

In order to simulate as closely as possible the conditions under which, by this hypothesis, cases of vomiting sickness occur, some ackees were obtained which to all appearances were good except that they were unopened or had been forced open after being gathered immature. The part used for food was then boiled with water just as was done by the natives in making their soup or "pot-water." The product, practically a watery extract of ackee, was then filtered. The result is a liquid of the colour of weak tea with a layer of oily, fatty matter like melted butter floating on the surface.

The extract after administration by mouth to kittens or pups set up the following train of symptoms: Within an hour of administration of a small quantity vomiting set in, and the animal was inclined to be heavy and dull for about half to one hour. Recovery then took place and the animal became normal and lively again. The following day a slightly larger dose was given with similar results, recovery being apparently complete in two hours or a little more. After an interval of three hours a third dose was given twice the size of the first. Vomiting came on 45 minutes later, and the animal became dull and drowsy, its head nodding as with sleep in some cases, in others it merely lay about and was disinclined to move and vomited at intervals. This drowsiness gradually deepened to coma during the succeeding hour, and death took place some four hours after the last administration. The total amount given was the extract from one ackee. The post-mortem appearances were, both naked eye and microscopically, absolutely typical of those found in human vomiting sickness patients. I repeated the experiment on several animals, merely varying the dosage, and except for a slight difference of interval between the feeding and the onset of the vomiting, according as the dose was small or a little larger, the symptoms and post-mortem appearances were the same.

Briefly stated, the characteristic symptoms of the so-called vomiting sickness appear an hour (more or less) after the administration of filtered watery extract of ackee. In human cases, where other food was taken as well and the action probably slower in consequence, the interval was usually 2 hours. After a small dose there was vomiting, and after a larger still, vomiting, drowsiness, coma and death. The matter had by this time progressed beyond the realm of mere hypothesis, and a most welcome confirmation came three months later, when the following cases occurred:—

On the evening of August 19th 1915, a family of eight, all at the time in good health, partook of a meal of ackees taken from a branch of a tree which had been damaged by the hurricane of the previous week. About two hours later, five of them complained of feeling sick; later three of these were attacked by vomiting, and one who had drunk some of the soup, shortly afterwards became convulsed, rapidly lost consciousness and died within 24 hours of the meal. The remainder completely recovered.

Six days afterwards, at 6 p.m. another similar meal was prepared. The soup together with some of the boiled ackees were eaten by a woman twenty-four years of age. At 8 p.m. she vomited and soon afterwards stated that she felt better; at 10 p.m., however, the vomiting returned, convulsions followed, coma set in and death took place shortly after midnight. Another member of the family was also taken ill, but recovered after vomiting. The autopsy I carried out myself and took specimens of practically every organ and tissue. Full details of both macroscopical and microscopical appearances have been given in the paper already spoken of.

Here then was a definite history of a patient previously in good health partaking of a meal of ackees from a bruised limb. She with other members of the family, suffered from vomiting and recovered. A week later another meal was prepared with fruit from the same tree. The patient drank the soup and also ate some of the solid. Two hours later the symptoms appeared and ran their course to a fatal termination in six hours or so, and at the post-mortem the typical changes were revealed. In this case the term "vomiting sickness" was not used from first to last, but the case showed typically the onset, course, and pathological changes of that disease.

Certain peculiarities and characteristics of the affection which at the onset were most puzzling, then found a ready explanation in the light of our present knowledge of the similarity (identity) between vomiting sickness on the one hand, and the effects and results of experimental administration of ackee extract on the other, linked together by the clinical case of definite ackee poisoning just related. These were:—

1. *The peculiar seasonal prevalence.*—The epidemic character of the disease corresponds exactly with the main ackee season, when other fruits and natural foods are relatively scarce. If the ackee season lasts longer than the usual November-December to March-April, then also cases of vomiting sickness continue to be reported for similarly longer periods. Ackees are also obtainable in smaller quantities at other times, but other foods are then plentiful and this fruit is less eaten. Occasionally cases of vomiting sickness, however, appear at other times as the one just related. It used to be thought that it was a disease of which occasional, sporadic cases occurred during the warmer months, becoming epidemic in the cooler, comparable, for example, with cerebro-spinal fever due to the meningococcus.



2. *Limitation to Jamaica.*—The results of the circular-letter sent to the authorities of the other West Indian Islands have already been mentioned. I myself have made enquiries of inhabitants or other islands and am told that the *Blighia sapida* does not grow to any extent in any of them. It is true that one or two trees are found, but they are looked upon as curiosities and are not used for food. They grow in British Guiana but are not used for food, nor in Cuba where the natives call it "vegetable brains" and never eat it; in Barbados they will not grow to maturity being killed off by 'scale' at the bush-stage.

3. *Sudden onset of symptoms* in the midst of apparent good health, without any incubation period or prodromata, and in the well nourished and not necessarily the emaciated or debilitated. We see now that the symptoms, being those of an acute intoxication, would depend not so much on the general well being of the subject as on the dose of the poison and the condition of the stomach, whether empty or full, and its consequent readiness for absorption.

4. *The rapid and complete recovery of non-fatal cases*—This is obvious, and explained by the fact that an acute vegetable poison is taken if the dose is small it is got rid of by the vomiting, and the patient recovers.

5. *Affection of several persons practically simultaneously in one house*, or close neighbours in a settlement. Several members are affected in one house because the food is cooked together and shared in common. Close neighbours in a settlement are affected because the trees are in and about the settlement and all share in the produce.

6. *The vastly greater prevalence in children.*—This is explained by the fact that they are given the "pot-water," the most toxic part—an extracted poison, in short—and that the lethal dose of a poison is far smaller for a child than for an adult; and also the adults know the risks of eating unopened ackees while children naturally do not.

7. *Attacking the West Indian native in much greater numbers than the East Indian or the white man.*—In Jamaica the coolies live largely on rice and split peas, often in the form of curry; they also like green fruit—mangoes, guavas, jack-fruit. They rarely indeed eat ackees. A few after they have served their time and settle in Jamaica, may eat them, but not at all commonly. The white buys his ackees in the market, where he can see and select them; while, safer still, many will only eat ackees which have been carefully gathered under their own superintendence and from their own trees.

The following is a summary of the results of the investigation in 1915:—

1. The term "vomiting sickness" has been used in Jamaica for many years as a comprehensive name for various diseases, including cerebro-spinal meningitis, gastritis, gastro-enteritis, worms, malaria; in fact any disease occurring in the cooler months and associated with vomiting and convulsions.

2. During the last ten years the idea has been gaining ground that there is an affection included under the term "vomiting sickness" whose course of symptoms and post-mortem changes are not those of any known disease.

3. The death rate from this affection is exceedingly high, 80 per cent to 90 per cent. and a fatal termination takes place in a few hours.

4. Investigations into a typical and severe outbreak in February, 1915, revealed the fact that, in a majority of the cases in which a reliable history was obtainable, ackees formed part of the last meal taken in health, and that this article of food could not be excluded in a single case.

5. Persons drinking the soup or "pot-water" made with ackees in certain conditions showed the most acute symptoms; the onset occurred in about 2 hours, and death nearly always resulted.

6. The fruit is poisonous if picked from a decayed, bruised or broken branch; if forced open and not opened naturally on the tree, amongst other conditions.

7. Much of the poison is extracted by boiling with water.

8. The symptoms of a case of typical vomiting sickness are: initial vomiting (gastric in origin) coming on in apparently perfect health; a period of improvement lasting a few hours, succeeded by secondary vomiting (cerebral), rapidly followed by convulsions, coma and death. The average total duration of illness is twelve and a half hours. Initial or secondary vomiting or convulsions may be absent, but not in a large percentage.

9. Recover, in my experience, has never occurred when once convulsions have set in, or coma if convulsions are absent; and as a corollary to this, in no cases which recover are convulsions seen.

10. The affection is largely one of childhood, and shows no predilection for sex.

11. A reasonable interpretation of the symptoms is: some poison is taken, or some substance which acts as a poison after it enters the stomach. If the initial vomiting is able to get rid of this substance, no further symptoms occur, and recovery is rapid. If this is not the case, there is an interval, a more or less quiescent period of absorption, after which there follows symptoms due to the action of the poison on the higher centres—secondary (cerebral) vomiting, convulsions, drowsiness, coma and death.

12. In rare instances the cerebral symptoms are those first noticed—convulsions, drowsiness, coma; there is no preceding vomiting—the so-called "vomiting sickness without vomiting."

13. Intragastric administration of an extract made by boiling unopened ackees with water produced in certain laboratory animals (kitten, dog) the symptoms and pathological changes seen in cases of vomiting sickness.

14. A case of ackee poisoning in a human subject exhibited the same symptoms, course and post-mortem changes, macroscopical and microscopical, as (a) human vomiting sickness cases, and (b) animals to whom an aqueous extract of unopened ackees had been administered.

15. The characteristics of vomiting sickness, the seasonal prevalence, the sudden onset in health, the rapid and complete recovery of non-fatal cases, the rarity of occurrence in white children and East Indians, the pathological changes set up, and so on, all find explanation in the view that the condition is an acute intoxication by the unwholesome ackees—the fruit of *Blighia sapida*.

III. There is no need to labour further the investigation of the epidemic of 1918. Sufficiently detailed an account has already been given in the preliminary remarks and the accounts of the 172 cases. With reference to the present epidemic the following communications are of interest.

"Since our epidemic in 1915 every time I am ordered to make a post-mortem examination in a case of "vomiting sickness" I get a careful history, and in no case where I see the characteristic macroscopical



changes have I been able to eliminate the ackee. In fact, in some cases I have been able to get the parties to confess that they have been deliberately telling lies in the history they give of the case, after the post-mortem is made and I find the signs well-marked.

"This season the ackees in this district came in very early in December and January and most of the cases occurred then—usually the ackee does not come into maturity until February and March.

"There have been no cases in the Salt Spring District since 1915, when, as you remember, I had about 40 cases there. Evidently the scare the people of that district had then has been of some benefit."

G. W. THOMSON.

"The month of February has only brought three cases of ackee poisoning in my district; I think the cases occurring in January must have incited the people to more care and attention in the ripening and preparation of the ackee for food. . . . It is interesting to see the many people who believe in the starvation theory and the climatic changes being accountable for the deaths. Nine-tenths of my cases, not only for this year but for the past 13 years, when I didn't know about ackee poisoning, were cases in well-developed well-nourished bodies."

G. P. CAMPBELL.

In this connection also reference may be made to Dr. Moot-Trille's letter quoted on page 30.

A few words may next be added to explain the rationale of the precautions recommended.

The statement has been made that Europeans and the better class natives exercise considerable caution in picking the ackees, only those fruits which are fully open and mature are used, and even then as an additional precaution the fruit is boiled separately from the other ingredients and the water thrown away. As has been proved by experiments the details of which I have already reported, the poison is extracted by boiling with water, and, therefore, if an immature (or poisonous) fruit is inadvertently used the poison is thus removed.

With the peasants the procedure is different. A boy is sent to shake the tree and the fruit in all stages falls to the ground. Mature and opened and immature fruits are there together. The "fit" ones, that is the mature and opened fruits are taken, the remainder being left on the ground. The children wandering about the yard, many of them hungry, pick up some of the immature fruits, force the husks open and eat the fruit, and are poisoned.

Returning for a minute to the fruit left after removal of the opened and mature ones. Some will open soon by action of the sun's rays—such, not having opened naturally on the tree, are poisonous, analogous, one may say to those forced open. Those which are "full" or mature will open naturally in a couple of days or so in the shade, and such, so far as my experimental work goes, are harmless. If they were not "full," they will not open within that time, and though apparently "full" are not "fit," and must not be used for food.

It is necessary to understand the use of the terms employed as the significance is not the same as it would be at home. The word "ripe" is applied as a general term to indicate that the tree looks well, that the fruit is coming towards maturity, that the pods are red. A "ripe" tree does not mean that the fruit on it is ready for eating. The stages to that point are (1) ripe (2) mature or full, (3) fit or opened; to these a fourth may be added; the fruit must consist of well developed arilli. Each fruit contains three of these arilli and although opened one or more may be deformed, with small and poorly developed seeds, such are sometimes at all events poisonous. If a branch has been partly broken or bruised by high winds the fruit on it does not open naturally and is poisonous. Fruits in the "full" stage are shipped abroad to Colon, and open naturally on or before arrival there and are consequently harmless.

We can see from this description what should be the proper procedure to prevent ackee poisoning. When the tree is shaken and the fruit in various stages falls, the "fit" and opened pods should be picked up and those alone used for the next meal and only those with undeformed arilli; the mature and full ones should next be taken and placed to open away from the direct sun's rays before they can be used with absolute safety, and any of these which do not so open in 2 or 3 days should be discarded; the immature unopened pods should all be picked up and taken away, as they will never be fit for eating; in order that they may not be found by children and inadvertently eaten, they ought to be burned. Boiling with water appears to remove the poison completely or nearly so. The reason for boiling separately from other food is that if one with deformed fruit or if an immature fruit should happen to be used, from careless supervision, the water or "soup" then contains the poison and should be thrown away. If other articles of diet, such as yam, rice, etc., are boiled with it, some of this water (with extracted poison) is absorbed by these articles and may cause poisoning.

Amongst the poorer natives the soup is not thrown away, but is given to the younger children who thus constitute a large percentage of cases, and the poison being taken avidly on an empty stomach is rapidly absorbed and rapidly kills. The poison is precipitated or at all events appears to be rendered inert by alcohol. Hence, if this is given at the very onset of the vomiting before much has been absorbed, the poison is ejected at the succeeding attack of vomiting and recovery rapidly ensues. Absorption, however, is very rapid, and if the administration of alcohol (rum, whisky, brandy or as sp. ætheris and sp. ammon, aromat, of which the "vomiting sickness medicine" is composed) be delayed till the secondary symptoms appear, all chance of recovery is lost. Sometimes there is no interval between the vomiting and the secondary symptoms, "Cerebral" vomiting, convulsions, and coma; in other words absorption is so rapid that no primary local symptoms occur. The initial "gastric" vomiting is absent and the first indications are the (usually) secondary "cerebral" symptoms. Such is not uncommonly the case where the "soup" is taken at the last meal of the day, shortly before bed time. A few hours later the child wakes up and vomits and before the mother can give any help or any medicine can be obtained, convulsions and coma have supervened with the invariably fatal result.

Examples of each of these are amply supplied by the record of cases in this year's epidemic. One can only hope that the experience of this epidemic, dearly bought as it has been, will drive home for good and all the lesson that ackee poisoning is a preventable disease and that if the precautions which have been drawn up as the outcome of these investigations are conscientiously carried out, the people will be

able to use the food with safety, while epidemics of Vomiting Sickness and Ackee poisoning will become things of the past. Then instead of the few hundreds of lives which have been saved this year by those who followed the advice given and the precautions laid down, there will be thousands spared to grow to maturity-children whose lives are now needlessly, thoughtlessly, wantonly thrown away.

I have the honour to be,

Sir,

Your obedient servant,

H. HAROLD SCOTT,

Government Bacteriologist.

The Honourable  
The Supt. Medical Officer,  
Kingston.

#### NOTICE.

The fruit of the ackee contains under certain conditions a powerful poison.

Among such conditions are:

Unopened fruit; or fruit which has not opened naturally on the tree.

Fruits from decayed or broken branches.

Fruit with soft spots in it.

The water in which such ackees has been boiled is particularly harmful.

The greatest possible care should, therefore, be taken if the ackee is to be used for food. For example:

1. No fruit should be used which shows any of the above conditions.
2. The fruit should be boiled separately from any other parts of the meal.
3. The water in which the fruit has been boiled must then be thrown away and on no account be mixed with the other food, or used as "soup."
4. The "potwater" is particularly dangerous for children.
5. The ackees should be gathered carefully and separately and not be shaken from a tree.
6. On no account should unripe ackees be left lying on the ground near dwelling.

#### TREATMENT.

In cases of Vomiting due to ackee poisoning the poison in the EARLY STAGES of the disease is counteracted by the giving of a stimulant such as RUM or alcohol in some form (RUM, BRANDY, WHISKY, etc.) which acts as an antidote to the poison.

Therefore WHEN SICKNESS COMMENCES GIVE the patient a good dose of RUM AT ONCE. In the LATER Stages rum is USELESS.

#### WARNING.

Neglect of the above precautions may result in serious and possibly fatal poisoning.

TABLE I.—Showing the numbers of specimens examined month by month 1917-18.

Subject.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Totals.
Widals (Entric) ..	93	95	94	121	140	97	112	106	145	104	88	108	1,303
Fæces for Helminthiasis ..	286	318	294	285	241	288	412	438	388	368	411	344	4,073
Fæces for Dysentery ..	38	13	16	27	16	14	75	167	144	42	5	8	565
Blood Smears ..	120	74	84	74	85	59	89	126	151	112	79	60	1,113
Pus Smears ..	25	5	8	5	6	9	9	17	11	3	7	2	107
Urine ..	32	40	44	39	45	54	66	49	51	51	46	56	573
Sputa ..	41	44	60	41	35	38	49	51	57	60	40	58	574
Tissues ..	116	10	4	7	14	8	16	5	11	76	120	64	451
Waters ..	6	12	8	9	7	14	18	10	10	9	10	6	119
Autopsies ..	4	3	3	1	3	3	3	4	3	5	..	9	41
Rats ..	64	42	62	74	74	105	109	201	114	127	130	74	1,174
Miscellaneous ..	133	87	60	48	69	111	93	132	87	130	99	164	1,213
Totals ..	958	743	737	731	735	810	1,051	1,306	1,172	1,087	1,035	953	11,308



TABLE II.—Numbers of sera examined by Widal's test for Enteric Fever month by month, with results, 1917-18.

Month.		Total.	Positive.	Negative.	Doubtful.
April	..	93	44	33	16
May	..	95	49	36	10
June	..	94	58	32	4
July	..	121	74	43	4
August	..	140	71	63	6
September	..	97	44	43	10
October	..	112	53	45	14
November	..	106	50	46	10
December	..	144	78	45	21
January	..	104	59	35	10
February	..	88	40	36	12
March	..	109	55	45	9
Total	..	1,303	675	502	126

TABLE III.—Examinations of sera sent up from Kingston, with percentage results month by month, and for the whole period, 1917-18.

Month.		Total.	Percentage Positive.	Percentage Negative.	Percentage Doubtful.
April	..	65	40.00	40.00	20.00
May	..	61	50.81	37.70	11.47
June	..	53	67.92	28.30	3.77
July	..	65	66.15	33.84	—
August	..	76	53.94	42.10	3.94
September	..	50	42.00	34.00	24.00
October	..	46	45.66	41.30	13.05
November	..	54	48.14	46.29	5.57
December	..	85	55.29	25.88	18.83
January	..	43	53.48	59.53	6.99
February	..	31	45.16	38.70	16.14
March	..	64	51.56	39.06	9.37
Totals	..	693	52.23	37.08	10.67

TABLE IV.—Districts from which blood has been sent for diagnosis of Enteric Fever, with results, 1917-18.

District.		Positive.	Negative.	Doubtful.	Total.
Kingston and Hospital		362	257	74	693
Spanish Town	..	109	58	16	183
Buff Bay	..	38	63	6	107
Plantain Garden River		27	34	5	66
Morant Bay	..	21	13	1	35
Linstead	..	16	11	4	31
St. Andrew	..	18	9	3	30
Port Antonio	..	15	10	4	29
Lionel Town	..	12	6	4	22
Mandeville	..	14	4	2	20
Lucea	..	8	8	1	17
St. Ann's Bay	..	3	6	6	15
Port Maria	..	5	6	1	12
Sav-la-Mar	..	6	2	..	8
Chapelton	..	7	..	1	8
Annotto Bay	..	1	6	..	7
Richmond	..	1	2	1	4
Grange Hill	..	3	1	..	4
Falmouth	..	4	..	..	4
May Pen	..	1	3	..	4
Montego Bay	..	2	..	..	2
Gayle	..	..	1	..	1
Black River	..	1	..	..	1
Total	..	674	500	129	1,303
Percentage	..	51.72	38.37	9.90	..

TABLE V.—Results of examination of Fæces for Helminthiasis.

District.	No. sent.	Neg.	Anky. only.	Ax. only.	Iricho. only.	All three.	Anky & Ax.	Anky. & Tricho.	Ax. & Tricho.
Spanish Town ..	495	34	134	10	10	114	111	73	9
Lionel Town ..	479	84	170	10	17	34	55	76	33
New York Emigrants ..	365	298	25	34	28	24	17	19	20
Kingston ..	346	128	51	17	40	25	23	51	11
Port Maria ..	304	10	115	5	6	63	49	52	4
Annotto Bay ..	303	5	110	11	3	50	69	44	11
St. Ann's Bay ..	272	9	18	3	11	147	44	32	8
Plantain Garden River ..	237	28	31	9	19	80	34	31	5
Linstead ..	224	9	34	3	3	99	47	26	3
Lucea ..	210	9	12	7	12	103	27	33	7
Falmouth ..	170	8	22	2	11	72	32	16	7
Black River ..	169	17	28	20	2	44	36	19	4
Mandeville ..	155	9	15	2	3	70	38	16	2
Montego Bay ..	134	8	34	5	2	45	19	19	2
Cave Valley ..	80	6	12	6	6	36	7	5	2
Chapelton ..	46	2	3	..	..	24	14	3	..
Ulster Spring ..	27	3	4	..	2	9	5	3	1
Others ..	57	9	5	3	6	17	10	7	..
Whole Island ..	4,073	576	823	147	181	1,065	637	524	129
Exclusive of Kingston and N.Y.E. ..	3,362	150	747	96	113	1,007	597	454	98
Whole Island previous year 1916-17 ..	5,270	1,012	1,687	264	212	776	668	444	207

TABLE VI.—Percentage of infection by various worms in Districts whence 100 or more specimens were sent during the year April 1917–March 1918, compared with the results of the preceding year.

District.	No. sent.	Positive.	Anky. only.	Anky. and in combination.	Ascaris only.	Ascaris & in combination.	Tricho. only.	Iricho: & in combination.
Spanish Town ..	495	93.13	27.07	87.27	2.02	49.29	2.02	41.62
Lionel Town ..	479	82.46	35.49	69.94	2.09	27.56	3.55	33.40
New York Emigrants ..	365	18.35	6.82	23.29	9.31	26.03	7.67	24.93
Kingston ..	346	63.01	14.74	43.55	4.91	21.96	11.56	36.71
Port Maria ..	304	96.71	37.83	91.77	1.64	39.80	1.97	44.41
Annotto Bay ..	303	98.35	36.30	90.09	3.63	46.53	0.99	35.64
St. Ann's Bay ..	272	96.69	66.2	88.60	1.10	74.26	4.04	72.78
Plantain Garden River ..	237	88.18	13.08	74.26	3.79	54.01	8.02	56.96
Linstead ..	224	95.98	15.18	91.96	1.34	67.86	1.34	58.48
Lucea ..	210	95.71	5.71	83.33	3.33	68.68	5.71	73.81
Falmouth ..	170	95.29	12.95	83.52	1.18	66.47	6.48	62.35
Black River ..	169	89.94	16.57	74.55	11.83	61.54	1.18	40.24
Mandeville ..	155	94.19	9.68	89.68	1.29	72.26	1.93	58.71
Montego Bay ..	134	94.03	25.37	87.31	3.73	52.99	1.49	50.75
Whole Island ..	4,073	85.85	20.18	74.64	3.69	48.34	4.44	46.40
Exclusive of Kingston and New York Emigrants ..	3,362	95.54	22.22	83.43	2.85	53.48	3.36	49.73
Whole Island previous year 1916-17 ..	5,270	80.79	32.01	67.83	5.00	36.33	4.02	31.10



TABLE VII.—Relative Percentages of varieties of worms present in positive specimens, *i.e.* percentage of infection based upon positive results, April 1917–March, 1918.

District.	No. sent.	Positive.	Anky. only.	Anky. & in combination.	Ascaris only.	Ascaris & in combination.	Tricho. only.	Tricho. & in combination.
Spanish Town ..	495	461	29.07	93.71	2.17	52.93	2.17	44.68
Lionel Town ..	479	395	43.03	84.81	2.53	33.42	4.30	40.51
New York Emigrants ..	365	167	14.97	50.89	20.36	56.88	16.77	54.49
Kingston ..	346	218	23.39	68.81	7.79	34.86	18.34	58.25
Port Maria ..	304	294	39.12	94.89	1.71	41.16	2.04	45.92
Annotto Bay ..	303	298	36.91	91.61	3.69	47.31	1.01	36.23
St. Ann's Bay ..	272	263	6.84	91.63	1.14	76.81	4.18	73.00
Plantain Garden River ..	237	209	14.83	84.21	4.31	61.24	9.09	64.59
Linstead ..	224	215	15.81	95.81	1.39	70.69	1.39	60.93
Lucea ..	210	201	5.97	87.06	3.48	71.64	5.97	77.11
Falmouth ..	170	162	13.58	87.65	1.23	69.75	6.79	65.43
Black River ..	169	152	18.42	83.02	13.15	68.42	1.31	44.73
Mandeville ..	155	146	10.27	95.20	1.37	76.71	2.05	62.33
Montego Bay ..	134	126	26.98	92.86	3.97	56.35	1.59	33.97
Whole Island ..	4,073	3,497	23.53	86.93	4.20	56.31	5.18	54.05
Exclusive of Kingston and New York Emigrants ..	3,362	3,212	23.26	87.33	2.99	55.98	3.52	52.05
Whole Island previous year 1916-17 ...	5,270	4,258	39.61	83.95	6.20	44.97	4.97	38.49

TABLE VIII.—Percentage of infection of various worms in districts whence 100 or more specimens were sent during the 6 months April–Sept., 1917, compared with the results of the preceding 6 months.

District.	No.	Positive.	Anky. only.	Anky. & in combination.	Ascaris only.	Ascaris & in combination.	Tricho. only.	Tricho. & in combination.
Spanish Town ..	298	91.27	22.81	85.23	1.67	52.68	2.34	43.95
New York Emigrants ..	265	44.15	6.79	22.26	7.54	24.52	9.05	25.66
Annotto Bay ..	165	98.18	33.33	86.66	6.06	46.66	1.81	36.96
Kingston ..	119	58.82	13.44	36.97	5.88	26.05	11.76	31.93
Lionel Town ..	215	66.04	24.65	42.32	4.18	24.18	6.97	31.62
Whole Island ..	1,712	80.84	17.11	67.81	4.67	48.01	4.26	44.16
Whole Island previous 6 months October, 1916,–March, 1917. ..	2,391	83.18	31.24	72.89	2.76	38.01	4.17	36.80

TABLE IX.—Percentage of infection by various worms in districts whence 100 or more specimens were sent during the 6 months October 1917–March 1918, compared with the results of the preceding 6 months.

District..	No.	Positive.	Anky. only.	Anky. & in combination.	Ascaris only.	Ascaris & in combination.	Iricho. only.	Iricho. & in combination.
Lionel Town ..	264	95.83	44.31	92.42	0.37	30.30	0.75	34.84
Kingston ..	227	65.19	15.41	46.74	4.40	19.82	11.45	39.20
Port Maria ..	206	95.14	39.32	89.02	1.94	40.29	2.42	33.98
Spanish Town ..	197	95.94	33.50	85.28	2.55	44.16	1.52	38.07
St. Ann's Bay ..	185	96.22	7.56	85.94	1.62	69.73	5.94	72.97
Lucea ..	168	95.83	5.95	86.90	..	67.85	5.35	75.59
Plantain Garden River ..	167	83.23	13.77	66.47	4.19	47.90	11.37	52.69
Annotto Bay ..	138	98.55	39.85	94.20	0.72	46.38	..	34.06
Montego Bay ..	134	94.03	25.37	87.31	3.73	52.98	1.49	50.75
Linstead ..	129	96.12	17.05	89.92	1.55	66.66	2.32	54.26
Falmouth ..	109	94.49	13.76	77.64	1.83	60.56	10.09	63.36
New York Emigrants ..	100	50.00	7.00	26.00	14.00	30.00	4.00	23.00
Whole Island ..	2,361	89.54	22.45	79.58	2.83	48.58	4.57	48.03
Whole Island previous 6 months April–Sept. 1917 ..	1,712	80.84	17.11	67.81	4.67	48.01	4.26	44.16



TABLE X.—Giving the main details of the “Vomiting Sickness” cases during the 1918 epidemic.

No.	Parish.	Initials.	Sex.	Age.	Symptoms.	Duration.	Clinical Diagnosis.	Morbid Anatomy.	Remarks.
1	Trelawny	J. H.	F	30 yrs.	Typical	23 hours	Vomiting Sickness	Typical of Ackee poisoning	Child of J. H., vomiting and fits practically simultaneously, then coma.
2	“	H.	F	7 “	Initial vomiting absent	6 “	“	“	Rapid course; was given the “soup.”
3	“	G. R.	F	2½ “	Typical	5 “	“	“	Sister of G. R. Was given “vomiting sickness medicine” and was well in 24 hours.
4	“	I. R.	F	5 “	Vomiting only	Recovered	“	“	—
5	“	E. J.	M	9 “	No convulsions, else typical	5 hours	“	“	—
6	“	E. H.	F	35 “	A typical	60 “	Ptomaine poisoning	“	‘Ptomaine’ (tinned fish) at first; ackee given later.
7	“	S. H.	M	36 “	Vomiting only	Recovered	Vomiting Sickness	..	Wife of S. H. See history for fuller account.
8	“	T. C.	F	6 “	“	“	“	..	Ate ackees, vomited 2—3 hours later, obtained medicine at once and rapidly recovered.
9	“	C. R.	F	30 “	Typical	26 hours	“	..	Daughter of E. H. Shand meal of ackees; medicine early; better in 2 hours and recovered rapidly.
10	“	Mary S.	F	3 “	“	4 “	“	Tissues not sent	Was seen plucking immature ackees to “ripen at home.”
11	“	Marie S.	F	35 “	“	40 “	Suspected Ackee poisoning	Typical of Ackee poisoning	Changes marked although duration brief.
12	“	E. C.	M	17 “	“	60 “	“	“	Changes advanced, duration longer than avergae.
13	“	R.	F	35 “	“	40 “	“	“	Comatose for 6 hours before death.
14	“	S. S.	F	4 “	“	8 “	Vomiting Sickness	“	Comatose for 15 hours before death.
15	“	M. T.	F	4 “	“	3 “	“	“	—
16	“	V. C.	F	1½ “	“	8 “	“	“	—
17	“	H. W.	M	13 “	“	? 12 “	“	“	Metamorphosis extreme; especially noticeable considering brief duration.
18	“	H. B.	M	2½ “	? Fits, otherwise typical	3-4 “	“	“	Ate ackees shortly before onset of illness.
19	“	I. B.	F	22 “	Vomiting diarrhoea colic	Recovered	“	“	Had “soup”; rapid onset of coma.
20	“	M. F.	F	24 “	Typical	15 hours	V. S. ? Fish poisoning	..	Had tinned fish the day before and the remains of same the following morning.
21	“	B. D.	F	50 “	Typical, but long coma	36 “	V. S. prob. Ackee poisoning	“	Had ackee and “soup.”
22	“	A. B.	M	4 “	Typical	12 “	“	“	Coma for 15 hours before death. Mother of last (M.F.) and shared same meal.
23	“	G. A.	F	60 “	No convulsions	36 “	Vomiting Sickness	“	Remains of recently used ackees in kitchen.
24	“	Y. A.	F	? “	Vomiting only	Recovered	“	“	Coma for 16 hours or more. Liver changes very extreme.
25	“	A. L.	F	50 “	A typical	“	“	..	Sister of last. Got medicine early; quite recovered within 24 hours.
26	“	L. W.	F	6 “	“	“	Malaria Gastritis	..	Vomiting, fever, chills, headache; spleen enlarged T. 100° F.; pain on taking food, and vomiting after food for several days.
27	“	E. W.	F	? “	“	“	“	..	Same as last; sister of L. W.
28	“	T. C.	M	9 “	No convulsions	6 hours	Vomiting Sickness	Typical of Ackee poisoning	All five of one family: Father (J. L.) and four children. For details see text.
29	“	John L.	M	5 “	Typical	2 “	V. S. Ackee poisoning	“	
30	“	James L.	M	7 “	“	13 “	“	“	
31	“	J. L.	M	? “	Vomiting only	Recovered	“	..	
32-33	“	Two other children	children		“	“	“	..	

TABLE X, *continued*.

No.	Parish.	Initials.	Sex.	Age.	Symptoms.	Duration.	Clinical Diagnosis.	Morbid Anatomy.	Remarks.
34	Trelawny	E. M. L.	F	9½ yrs.	Typical	?	V. S. Ackee suspected	Typical of Ackee poisoning	—
35	"	V. A. R.	M	4 "	Initial vomiting absent	3 hours	Vomiting Sickness	"	—
36	"	S. B.	F	24-12	Uncertain	7 "	None made; ackee suspected	"	—
37	"	E. S.	F	12 "	Typical	11 "	Vomiting Sickness	"	—
38	"	— S.	M	?	Vomiting only	Recovered	"	"	Uncle of E. S. improved on taking medicine and rapidly recovered.
39	"	S. B.	M	3 "	No convulsions	? 6 hours	"	Malaria	Parasites and pigment abundant; no signs of ackee poisoning.
40	"	I. G.	F	5 "	Typical	16 "	"	Typical of Ackee poisoning	Medicine not obtained till late; child then comatose and unable to swallow.
41	"	Ira G.	F	4 "	"	8 "	"	"	Sister of last.
42	"	V. M.	F	2½ "	Found dead in bed	?	None made	"	History obtained later. Was seen eating unripe ackees the day before.
43	"	J. B.	F	9 "	Found comatose	?	Ackee poisoning	"	Half-sister of V. M. Both seen eating ackees from proken branch.
44	"	H. D.	M	2-10-12	Typical, but two calm periods	?	Vomiting Sickness	"	Had been given "pot-water."
45	"	H. M.	F	22 "	Typical, but two calm periods	46 "	"	"	Very marked changes noticed at post-mortem; see fuller history in text.
46	"	A. B.	F	1½ "	No convulsions	21 "	"	"	—
47	"	C. S.	M	5 "	Secondary vomiting absent	about 24 hrs.	"	"	Primary vomiting, the interval succeeded by convulsions and coma.
48	"	A. M.	F	7 "	Typical	4 "	"	"	Others in family attacked, but recovered after taking medicine.
49	"	E. J.	M	3 "	No calm, no convulsions	10 "	"	"	Vomiting continued on and off till onset of coma four hours before death.
50	"	A. K.	F	9 "	Vomiting only	Recovered	Ackee poisoning	"	Medicine given promptly; no secondary symptoms.
51	"	E. S.	M	4½ "	Secondary vomiting absent	10 hours	V. S. Ackee suspected	"	Initial vomiting; later convulsions and coma after quiescent interval.
52	"	E. N.	F	1 "	Fever, vomiting, fits	? 20 hours	Vomiting Sickness	Spleen enlarged; malarial pigment	—
53	Clarendon	C. P.	M	15-12	Typical	10 hours	"	Typical of ackee poisoning	Cousins living together.
54	"	V. W.	F	3 "	"	11 "	"	"	Brother of V. W. Very brief duration; was given (1 ackee) "tea."
55	"	S. W.	M	7-12 "	Initial vomiting absent	1½ "	"	"	Ate ackees previous day.
56	"	W. D.	M	2 11-12	Typical	?	"	"	Was given the "soup."
57	"	T. M.	F	5 "	"	24 "	"	"	—
58	"	P. J.	M	1½ "	No vomiting recorded	?	"	"	Had "pot-water soup."
59	"	I (coolie)	M	1½ "	Typical	14 "	"	"	Changes marked; fairly long duration.
60	"	T. A.	M	2½ "	"	? 17 "	"	"	Changes very marked considering brief duration*
61	"	O. R.	M	3½ "	"	22 "	"	"	Sister of J. H.
62	"	I. D.	F	9 "	"	about 30 hours	"	"	—
63	"	R. D.	M	5½ "	Initial vomiting absent	72 "	"	"	History obtained later.
64	"	J. H.	M	5 "	"	4 "	"	"	Uraenin; Scarlatinal nephritis
65	"	B. H.	F	12 "	Typical	24 "	"	"	—
66	"	A. H.	F	3 yrs.	"	8 "	Vomiting Sickness	Typical of Ackee poisoning	—
67	"	E. E.	F	4½ "	"	10-12 months	"	Tissues not sent	—
68	"	I. E.	F	1½ "	A typical	2 months	"	"	—
69	"	B. B.	F	2 "	Typical	15 hours	"	"	—



TABLE X, continued.

No.	Parish.	Initials.	Sex.	Age.	Symptoms.	Duration.	Clinical Diagnosis.	Morbid Anatomy.	Remarks.
70	Clarendon	I. K.	M	11-12yr.	Fever, diarrhoea, teething	"	Vomiting Sickness	Tissues not sent	Not V. S. at all, though reported as such. Infantile convulsions with gastro-intestinal and dentition troubles.
71	"	U. D.	M	44 "	Typical	? 60 hours	V. S. Ackee poisoning	"	Previously well; taken ill shortly after meal of ackees.
72	"	S. D.	F	?	"	?	"	"	Wife of last. Shared same meal.]
73	"	E. H.	F	6 "	"	8½ "	"	"	{ All members of same family. Had a meal of ackees and drank the "pot-water" (soup)
74	"	H. M.	F	45 "	? fits; otherwise typical	21 "	Vomiting Sickness	"	{ Three died, two recovered.
75	"	S. P.	M	6 "	"	13 "	V. S. Ackee poisoning	"	{ Another child of the family, 4 years of age, was away for the day at a friend's house.
76	"	A. P.	F	9 "	"	7½ "	"	"	{ She did not have any share in the meal and was the only one to keep quite well.
77	"	J. P.	M.	?	Vomiting only	Recovered	"	"	{
78	"	M. P.	M	?	"	"	"	"	{
79	"	O. L.	M	5 "	Typical	? 8 hours	Vomiting Sickness	"	—
80	"	B. J.	F	5 "	"	6½ "	V. S. Ackee suspected	"	—
81	"	A. B.	F	3 "	"	"	Vomiting Sickness	"	Giving of ackee denied, but see history: "killed by a duppy (ghost) in the ackee tree."
82	"	P. P.	M	11-12 "	"	18 "	V. S. Ackee poisoning	"	Was given ackees the day before.
83	St. Andrew	S. B.	F	?	Typical, but ? fits.	48 "	Vomiting Sickness	"	—
84	"	G. L.	M	7 "	Typical	7½ "	"	"	Ackee-eating admitted
85	"	A. C.	F	18 "	Found unconscious	?	V. S. Ackee suspected	"	Shortly before illness ate a large meal of ackees
86	"	V. F.	F	211-12 "	Fits and coma, ? vomiting	12 "	Vomiting Sickness	"	—
87	"	J. A. S.	M	27 "	Found dead in bed	? "	None made	"	Lived alone. Post-mortem signs typical. See detailed account.
88	"	D. D.	F	2 "	No vomiting, abdl. pain	? "	Vomiting Sickness	Malaria	Initial vomiting absent.
89	"	P. H.	M	7 "	Vomiting & fits together	10½ "	"	Typical of Ackee poisoning	Ackees found in stomach and intestine. Had attack in Dec. 1917, after eating ackees, but recovered.
90	"	L. P.	F	9 "	Typical	19½ "	Ackee poisoning	"	—
91	"	E. G.	M	7 "	"	13 "	Vomiting Sickness	"	—
92	"	R. R.	M	13 "	"	22 "	"	"	—
93	"	B. B.	F	4½ "	A typical	? "	None made, Ackee	Malaria	High fever headache, convulsions; large spleen. Malarial parasites and pigment present. No signs of ackee poisoning.
94	"	V. J.	M	6 "	Typical	8 "	Vomiting Sickness	"	—
95	"	L. S.	F	5 "	"	9 "	V. S. Worms ? Ackee	"	Had ackees for last meal the day before.
96	"	M. A. T.	F	11 "	Initial vomiting absent	2 "	Ackee poisoning	"	Ate ackees at meal prior to onset.
97	"	E. M.	F	14 "	Typical	47 "	"	"	Meal of ackees the day before. Weak and drowsy, but did not lose consciousness. Quite recovered in 24 hours.
98	"	T. H.	F	14 yrs.	Vomiting only	Recovered	Ackee poisoning	"	{ Brother. Were given ackee and the "soup" prior to onset of illness. Another child died last year under similar circumstances.
99	Kingston	D. G.	M	5 "	Typical	22 hours	None made	Typical of Ackee poisoning	Giving of ackees denied, but ackees in stomach and other signs typical.
100	"	— G.	M	3 "	"	? "	"	No specimens sent	Giving of ackees denied, but ackees in intestine; tissues typical.
101	"	V. K.	F	24-12 "	"	2 "	"	Typical of Ackee poisoning	
102	"	A. S.	M	3 "	"	28 "	? Ackee poisoning	"	

TABLE X. continued.

No.	Parish.	Initials.	Sex.	Age.	Symptoms.	Duration.	Clinical Diagnosis.	Morbid Anatomy.	Remarks.
103	Kingston	F. H.	M	3½ yrs.	No vomiting recorded	3 hour	None made	Typical of Ackee poisoning	Ackees present in duodenum and small intestine; tissues typical.
104	"	B. J.	M	5 "	Initial vomiting absent	4 "	Ackee poisoning	" "	Fragments in stomach, duodenum, and upper part of small intestine.
105	"	J. F.	M	5½ "	Typical	3½ "	" "	" "	Was seen eating ackees; fragments in duodenum and small intestine.
106	"	E. M.	F	14 "	"	37 "	" "	" "	Ate ackees at meal previous to onset.
107	"	V. F.	F	4 "	"	36 "	" "	" "	Meal of ackees the evening prior to onset.
108	"	I. G.	F	9 "	Vomiting only	Recovered	" "	" "	Ate ackees before onset of vomiting. See detailed history.
109	"	J. S.	M	11 "	"	"	" "	" "	Vomited ackees; as rowsey, but did not lose consciousness.
110	"	V. L.	M	13 "	"	"	" "	" "	Passed undigested ackees, though eating ackees strongly denied.
111	"	H. B.	M	5 "	Typical	12 hours	" "	" "	Picked up and ate unripe ackees. Present in stomach at autopsy.
112	"	G. C.	F	14 "	Vomiting only	Recovered	" "	" "	"weak and sleepy," but did not lose consciousness nor have any fits.
113	"	E. C.	M	4 "	Initial vomiting absent	7½ hours	None Made	" "	Ackees eating denied, but ackees found in stomach at autopsy.
114	"	R. P.	F	3¼ "	"	20 "	Ackee poisoning	" "	Ackees given at last meal prior to onset.
115	Manchester	A. T.	M	6 "	Typical	17 "	V.S. Ackee suspected	" "	Ackees denied, but found in stomach, post-mortem.
116	"	— T.	F	?	"	22 "	" "	No specimens sent	Mother of last. Immature ackees in kitchen, and remains of some used at last meal.
117	"	E. S.	F	3 "	"	15 "	Vomiting sickness	Typical of Ackee poisoning	Ackees eaten the same day and the day before.
118	"	T. H.	M	15 "	"	9 "	V.S. Ackee poisoning	" "	Members of some family. All had partaken of same meal of ackees, but the three adults took medicine and recovered rapidly.
119-121	"	Three adults			Vomiting only	Recovered	" "	" "	—
122	"	T. R.	F	36 "	Typical	? 24 hours	V.S. Suspected ackee poisoning	" "	Vomiting, convulsions and coma in rapid succession
123	"	H. F.	F	4 "	"	12 "	Vomiting Sickness	Ackee poisoning and Malaria	Mother and daughter.
124	"	M. T.	F	4 "	Initial vomiting absent	11 "	" "	Typical of Ackee poisoning	Vomiting, abdominal pains, coma. Ill on previous days with fever. No signs of ackee poisoning.
125	"	C. M.	F	22 "	Typical, but ? fits	10 "	V.S. Ackee poisoning	" "	—
126	"	T. S.	F	11½ "	Typical	19 "	" "	" "	—
127	"	S. S.	M	10 "	A typical	8-10 hours	Vomiting Sickness	Malaria	—
128	"	S. R.	M	4 "	No calm interval	3½ "	V.S. Ackee suspected	Typical of Ackee poisoning	—
129	"	L. R.	F	3 "	Typical	3 "	Vomiting Sickness	" "	—
130	"	A. S.	M	6 "	Initial vomiting absent	8 "	" "	" "	—
131	"	H. K.	M	7 "	Typical	9 hours	" "	" "	—
132	"	H. da C.	F	3½ "	Uncertain	?	" "	" "	—
133	Portland	M. B.	F	3 "	Initial vomiting absent	2 "	S. S. Ackee suspected	" "	See text for details.
134	"	L. B.	F	5 "	"	4 "	" "	" "	Sisters. Vomiting succeeded rapidly by convulsions and coma.
135	"	U. M.	M	5 "	"	4 "	Vomiting Sickness	Old Malaria and ? Ackee	Merely vomiting and fits. Some tissues lost. See text for fuller details.
136	"	M. L.	F	10 "	Typical	9 "	" "	Typical of Ackee poisoning	—
137	"	J. C.	M	22 "	"	3 "	Acute intestinal obstruction	" "	Diagnosis altered by medical attendant after post-mortem to ackee poisoning.



TABLE X, continued.

No.	Parish.	Initials.	Sex.	Age.	Symptoms.	Duration.	Clinical Diagnosis.	Morbid Anatomy.	Remarks.
138	Portland	A. P.	F	19 years	Typical	24 hours	V. S. Ackee suspected	Typical of Ackee poisoning	History obtained later. See detailed account.
139	"	R. S.	M	11 "	Vomiting only	3 Recovered	Ackee poisoning	"	Members of same family. The two who recovered did so rapidly after taking a cohob (rum)
140	"	C. S.	M	24 "	"	"	"	"	Sister of A. P. (No. 138). Suffered from Asthma
141	"	C. S.	M	7 "	No vomiting recorded	"	Ackee suspected	"	and renal disease, but ackee was final cause of death.
142	"	C. W.	F	7 "	"	"	"	"	Brother and sister.
143	St. Ann's	P. G.	M	7 "	No calm interval	? 18 hours	Vomiting sickness	"	Changes marked, so poison must have been acting for some time prior to onset of symptoms.
144	"	E. G.	F	5 "	Typical	19 "	"	"	Details in text.
145	"	J. H.	M	3 "	Typical but no fits	1 "	"	"	Vomited ackees. Long duration and changes advanced.
146	"	L. M.	M	2½ "	Typical	4 "	"	"	Was seen picking ackees the day before.
147	"	J. E. H.	F	5 "	"	39 "	V. S. Ackee poisoning	"	See detailed account
148	"	H. B.	M	13 "	Secondary vomiting absent	50 "	Vomiting Sickness	"	Vomiting, convulsions, coma, and death in an hour. Changes marked, so poison acting for some time.
149	"	V. R.	F	7 "	Two calm intervals	about 18 hours	"	"	All six attacked after eating ackees. Grandmother and 3 grand children died; two adults recovered.
150	"	L. S.	F	13 "	Typical	? 36 "	"	"	Sisters.
151	"	E. W.	F	7 "	Initial vomiting absent	1 "	"	"	Coma for 2 days; changes extreme. Had ackees the day before; picked them off the ground and ate them.
152	St. Catherine	L. R.	M	10 "	Typical	3½ "	"	"	Son of last. See details.
153	"	E. R.	F	10 "	"	3 "	"	"	Probably had "ackee soup."
154	"	L. R.	F	24-12	"	7 "	"	"	Parents deny giving ackees to the child, though they "ate them at the same meal" themselves.
155	"	—R.	F	? Adults	Vomiting only	? Recovered	Probably Ackee poisoning	No specimens sent.	Comatose for 12 hours before death. See detailed account for two other cases, but no specimens sent.
156-7	"	—R.	F	3 years	Typical	8 hours	"	Typical of Ackee poisoning	See text.
158	"	H. S.	F	11 "	"	18 "	"	"	One of four deaths, three children and one adult.
159	"	D. S.	F	14 "	"	20-22 "	Ackee poisoning	"	No specimens sent from others. See detailed account.
160	"	J. M.	M	20 "	"	? "	"	"	History indefinite.
161	"	A. E.	F	"	"	"	"	"	
162	"	J. de V.	M	9-12	Found dead	½ "	"	"	
163	Hanover	C. B.	F	9 "	Typical	24 "	Vomiting Sickness	"	
164	"	C. A. C.	F	6 "	Initial vomiting absent	12 "	V. S. prob. Ackee poisoning	"	
165	St. Mary	H. F.	F	4 "	Typical	About 14 hrs.	Vomiting Sickness	Typical of Ackee poisoning	
166	"	E. P.	F	36 "	Typical, but ? fits	46 "	Worms and Ackee poisoning	"	
167	"	G. T.	M	17-12	Found dead in bed	Unknown	None made	"	
168	St. Elizabeth	M. B.	F	? "	Typical	? "	Ackee poisoning	"	
169-71	"	Three others	in same	family,	all fatal, but no other details.	? 24 hours	Ackee poisoning	"	
172	St. James	H. B.	M	16	Typical	"	"	"	

## VOMITING SICKNESS, 1918.

TABLE XI.—Showing the combined Age and Sex incidence.

Sex.	Under 5 years.	Between 5-10 years.	Between 10-15 years.	Between 15-20 years.	Between 20-30 years.	Over 30 years.	Totals.
Females ..	37	19	9	3	7	8	83
Males ..	31	16	8	2	2	2	61
Totals ..	68	35	17	5	9	10	144
Percentage ..	47.22	24.31	11.81				
	71.53% below 10 yrs.						
	83.34% below 15 years.						



# PUBLIC HOSPITAL.

Report for the year ended 31st March, 1918.

Island Medical Office, Kingston,  
6th July, 1918.

Sir,

I have the honour to forward Dr. Ross' Report on the working of the Public Hospital, Kingston for the year 1917-18.

A very large number of serious cases have during the year passed through the Medical Officers' hands; in fact owing to the pressure on the beds of the hospital leave had to be asked to overstep the number of cases allowed for on the Estimates and permission to do so was conveyed in your letter No. 16729/2183 dated 10/11/17.

On one day the number of patients rose to 282 or 48 above the number allowed, while for the year the daily average was 263 or 29 above the daily average allowed.

Whether the large number of cases that applied for hospital in-patient treatment had anything to do with poverty caused by the hurricane, or the War or want of work combined with poverty it is difficult to say, but one fact can be mentioned without any doubt and that is that the Public Hospital, in order to meet the wants of the public needs the addition of at the very least 100 beds more including wards for the isolation of infective diseases while the Out-patient Department should be enlarged by the addition of extra accommodation for the treatment of special diseases such as Eye, Throat, Ear and Women's diseases.

Owing to the fact that Bumper Hall Infective Diseases Hospital is in the hands of the War Department cases of measles, chicken pox and diphtheria, etc., that might be sent there have to be housed in tents in the hospital grounds, a thing that is distinctly undesirable. Still war time is war time and we have to put up with inconveniences as our share of the war backwash, although I am sorry to say that there are people to be found in Jamaica who would seem to think that the present is an excellent time to attack the Medical Department. It rather reminds me of Lord Beaconsfield famous saying: "That when the Conservatives were bathing the Liberals ran away with their clothes," and we must therefore expect complaints to be made on trivial matters by those who do not either understand hospital customs or who do not recognise the disabilities under which the Department has to work, owing to the existence of the war.

The hospital has been fortunate in obtaining the services of an up to date Matron in Miss Ruth Cartwright, who was trained as a nurse at St. Georges Hospital and who has seen war services during the first portion of the war.

Miss Cartwright has introduced the system of giving the nurses lectures in the wards an innovation that tends to improve their practical training and one notices already a great improvement in the way that things are done.

The Evening Clinics continue to be popular judging by the number of attendances—certainly the evening is that hour of the day that the labouring classes can afford to spare time to see a doctor and get a dose of medicine without of necessity losing a day or half day's work with corresponding loss of wages. However as it has become so popular a second Medical Officer will need to be detailed to help in the work.

The male venereal ward is largely patronised and had a daily average of 35.8 during the year.

As soon as the new wards are built we shall be able to give the females a Venereal ward to themselves and thus separate them from patients suffering from general diseases.

Everything comes to those who wait, although in Jamaica the Medical Department probably does more waiting than anyone else and bit by bit the hospital is shaping itself properly into what it ought to be, but it is slow work.

Owing to the financial condition of the Island some of those items which had been allowed for on Sir Sydney Olivier's last estimates have never been proceeded with and it is to be hoped that it will be found possible to have them placed on the Estimates at an early opportunity.

## GENERAL COST OF THE HOSPITAL.

The great drawback to hospital management in this Colony is the lack of money wherewith to supply what is necessary.

In comparing the cost to General Revenue of the Public Hospital, Kingston, with the cost of various English hospitals one will see in the table below how much more is spent on patients than in Jamaica. As long as finance will not allow even of sufficient equipment the public hospital must remain somewhat at a disadvantage when compared with English hospitals. I take as examples of some English hospitals that have no more beds available than has the Public Hospital, Kingston, from which it will be seen that the average cost per bed in England is much greater than in Jamaica.

Cost of some of the English hospitals.

	Daily Average	Cost of In-patients £	Average cost per bed occupied. £	Daily cost per in-patient. s.	Total In-patients.
Westminster Hospital	.. 179	20.394	130.7	6/3	2,058
Royal Free Hospital	.. 153	17.541	114.6	6/3	2,356
Liverpool Royal Southern	.. 180.8	13.940	77.1	4/2 <sup>3</sup> / <sub>4</sub>	2,522
Birmingham Queen's Hospital	.. 176.2	14,911	84.5	4/7 <sup>1</sup> / <sub>2</sub>	2,994
Cambridge Addendrokes	.. 130	10.839	83.3	4/7 <sup>1</sup> / <sub>2</sub>	2,092
Oxford Radcliffe Infirmary	.. 181	14.038	77.5	4/3	2,231
Hull Royal Infirmary	.. 220.7	13.619	61.7	3/4 <sup>1</sup> / <sub>2</sub>	3,736

Taken from Burdett's Hospital and Charities 1917.

Herewith is added the cost, etc., of certain United States Hospitals with the number of beds occupied daily, from which it will be seen that the cost is often more than twice what the Kingston Public Hospital costs. It is therefore a little uncharitable of people to compare Jamaican and United States Hospitals and to advertise the luxurious condition of the American hospitals with the penurious condition of our local hospitals.

Cost of some American Hospitals.

	Average beds occupied.	Cost.	In-patients.
		\$	
Buffalo General Hospital ..	261	169.207	5,590
Chicago Englewood Hospital ..	125	94.758	4,684
Brooklyn: The Brooklyn Hospital	135	120.324	3,028
Milwaukee Country Hospital ..	250	82.345	1,750
New York—Fordham Hospital ..	210	171.234	6,342
New York—The Roosevelt Hospital	224½	275.774	4,826

Taken from Burdetts Hospital and Charities, 1917.

FURNITURE.

A good deal more furniture is needed for the convenience of patients and patients' friends, chairs being conspicuous by their absence.

I have the honour to be,  
Sir,  
Your obedient servant,

J. ERRINGTON KER,  
Supt. Medical Officer.

Public Hospital, Kingston, June 26th, 1918.

Sir,

I have the honour to place before you the Annual Report and Returns of the Medical and Surgical cases treated in this hospital during the year ending March 31st, 1918.

*Table I.*—Shows the number treated as In-door patients during the year with results. The total number being 3,951 of which number 262 were still remaining in hospital at the end of the year.

It is worthy of note that the number remaining under treatment at the end of the last financial year 1917 was exactly the same, viz., 262.

The total number of deaths from all causes was 425; 237 males and 188 females. The average number of beds occupied daily amounted to 264.3—(Males 169.7 and females 94.6)—as against 248 in the previous year. The pressure on our accommodation has been very heavy and it is a noteworthy fact that while the total number of admissions during the year were actually less by 233 than in the previous year, the average daily number of beds occupied exceeds the figures of last year by 16. The explanation of this being that the average stay of patients has been longer. The number of applicants for admission who were rejected for various reasons amounted to 3,592 as against 3,657 in the previous year.

*Table II.*—Gives the average stay, etc., of patients in hospital. If this is compared with that of last year it will be seen that patients as a whole have stayed longer in hospital and this will account for the smaller number admitted, had this not been so more would have been admitted and fewer rejected.

*Table III.*—Gives the number of deaths occurring within 12, 24, 48 and 72 hours after admission, viz., under 12 hours, 49; under 24 hours, 34; under 48 hours, 60; and under 72 hours, 41. The total death rate from all causes for the year was 10.75%, i.e., 48% lower than the year before.

*Table IV.*—Gives the number of medical cases treated during the year with results.

The most noteworthy were:—

(1) *Malaria*—250 cases with 18 deaths as against 353 cases with 25 deaths in the previous year. By far the greater number were of the Subtertian or "folciparum" type.

(2) *Enteric Fever*—267 cases with 47 deaths compared with 196 cases with 48 deaths in the previous year, i.e., 71 cases more and one death less; a very marked and satisfactory improvement.

(3) *Dysentery* (Amœbic)—22 cases with 4 deaths as against 54 cases with 13 deaths. It is gratifying to note that this dangerous disease is tending to diminish and also that the percentage of recoveries is improving.

(4) *Pulmonary Tuberculosis*—86 cases with 26 deaths.

(5) *Syphilis*—168 cases with 10 deaths as against 70 cases in the previous year.

(6) *Gonorrhœa and Sequelæ*—253 cases with 2 deaths as against 232 cases in the previous year. Other cases of Syphilis and Gonorrhœa were treated as externs and are included in the Evening Clinique Table.

(7) *Pneumonia*.—136 cases with 43 deaths compared with 161 cases with 53 deaths in the previous year.

(8) *Influenza*—46 cases without a death against 122 cases with 1 death in the year before.



*Table V.* gives the number of major surgical operations performed during this year and we feel a good deal of pardonable pride in the fact that we lost only 10 out of 1,226 operated upon, viz., a death rate of .8%.

*Tables VI & VII.* give the returns of countries and parishes to which the various patients admitted during the year belong.

*Table VIII.* gives the occupations of patients admitted during the year and from this it will be seen that having treated 132 members of the various war contingents and 49 members of the local Militia the hospital continues to do work in connection with the Empire's fighting forces.

*Table IX.* shows the number of prescriptions dispensed for out-patients, constabulary and Maternity Hospital as also the number of minor surgical operations performed and out-patients treated.

This table shows a very marked and steady increase of work done in the out-patient Department. The figures for the last three years compare as under:

	1915-16.	1916-17.	1917-18.
Patients with tickets	543	820	1,772
Patients without tickets	8,588	11,728	13,263
Minor surgical operations	287	473	616
Out-patient dressings	28,882	30,583	41,236

In my last Annual Report I called attention to the inconvenience in working this department due to cramped accommodation; this condition has not been in any way relieved but has on the contrary been aggravated and tends to become still more so.

*Table X.* gives the number of Venereal cases treated at the Evening Cliniques which have been held regularly twice a week throughout the year. From this it will be seen that 1,285 males and 780 females were so attended. In addition to venereals other cases suffering from non-venereal complaints were attended at the evening clinics amounting to 1,739 males and 4,309 females.

*Table XI.* gives some further details concerning the treatment of Venereal cases both as in and out-patients.

The number of persons who refused to remain in hospital (viz., Syphilis 142, and Gonorrhœa, etc., 165) until completely cured, is still very much too high and leads one to the conclusion that the community as a whole do not yet realize that venereal diseases are serious and frequently irreparably ruin the lives of persons who contract them unless vigorous treatment is begun early and religiously persevered with.

The health of the staff nurses and other employees has been generally good though again we have had one or two cases of measles and chicken pox among the nurses. In this connection I must again call attention to the risk we run owing to the lack of proper isolation wards for such cases.

The practice of inoculating all nurses against Typhoid immediately as they are taken on for training has been strictly adhered to and this has also been extended to wardmaids, scrubbers and laundresses all of whom have been so inoculated.

In August, 1917, Miss R. Cartwright a trained Nursing Sister from St. George's Hospital, London, who performed valuable nursing services with "French's contemptible little Army" under the auspices of the British Red Cross Association during the first year of the war, including the historic retreat from Mons, arrived to join the Staff as Matron. As a result of her war experiences Miss Cartwright arrived here thoroughly up to date in the technique of nursing and she has spared no pains to instill this knowledge into the nurses over whose training she presides.

During the year under review the hospital was not honoured with a visit from His Excellency the Governor though he visited twice during the previous year.

The Board of Official Visitors has, as usual visited regularly throughout the year, but found no serious fault on any occasion.

Lectures and classes for Senior and Junior Nurses have been conducted regularly during the year and 13 nurses passed their final examination and were granted certificates.

On Xmas day (for the 4th year in succession) Mrs. J. H. Park, wife of the Hon. Director of Public Works gave a Christmas tree in the Children's ward.

I am sure that the manifest joy and happiness of those little sufferers will be accepted by Mrs. Park as the thanks which one finds so difficult to adequately express or supplement in mere words.

On the same day the Nurses Xmas dinner was given and thanks to the Hon. Dr. and Mrs. J. E. Ker, the Hon. J. H. & Mrs. Park, Mrs. K. H. Bourne, Mr. E. B. Hopkins, Mrs. Ross and other influential ladies and gentlemen who attended and assisted was voted by the nurses to be a very great success.

On the 1st and 2nd January, 1918, the nurses outing to Castleton (and it is earnestly hoped that this will become an annual event) came off.

Again I have to express sincere thanks to all who by the loan of motors and otherwise so generously contributed to this thoroughly successful and well merited treat.

I have also to thank all who have throughout the year so kindly kept the patients provided with books magazines, newspapers, flowers, etc.

I will now conclude by recording the fact that I have received very valuable assistance and support, from a hard worked and hard working set of fellow officials.

I have, etc.,

G. H. K. Ross,  
Actg. Senior Medical Officer.

The Honourable,  
The Acting Colonial Secretary,  
Kingston.

The Dental Laboratory, Public Hospital,  
Kingston, June 10th, 1918.

The Suptg. Medical Officer.

Sir,

I have the honour to submit the following report on the progress of the work in this Department for the year ending 31st March, 1918.

By comparison with the figures for 1916-17 herein included for that purpose, a marked increase in volume will be observed to have occurred in every important branch of the year's work. This increase is particularly noticeable in the case of fillings, which have increased nearly 100% and in prophylactic operations and the treatment of Pyorrhea Alveolaris and allied conditions.

Among the latter may be mentioned two cases of a very acute and obstinate form of gigivitis, the patients in both cases being men of the Jamaica War Contingent.

Bacteriological examination and its characteristic appearance and history, shewed this condition to be identical with that lately noticed and commented on by British Army Surgeons. They have been successfully treated.

The work for the Jamaica War Contingent has been, to a great extent, responsible for the increase under several headings; particularly in the early months of the year this work was quite unprecedented both in volume and variety.

An inter-maxillary splint was made in my Laboratory for the treatment of a case of double fracture of the Mandible, but, owing to the appearance of complications requiring surgical intervention its use was discontinued.

My thanks are again due to my partner Dr. E. C. Melville who rendered invaluable service in the work of the department.

The statement of work follows:

	1916-17.	1917-18.
Cases treated ..	2,778	3,283
Extractions ..	3,562	3,434
Root fillings	51	45
Extirpation of pulps ..	65	81
Pyorrhœa and other treatments	119	392
Fillings ..	796	1,564
Removal of necrosed process	4	9
Mouth washes (bottles)	112	98
Minor Surgical operations	5	10
Prophylactic treatments	32	123
Capping nerves ..	54	65
Fractures of Maxillæ	—	1

I have, etc.,

S. C. DEPASS, D.D.S



Financial Return of the Public Hospital for the six years ended 31st March, 1913, 1914, 1915, 1916, 1917 and 1918.

Year.	Average daily number of Beds.	Gross Expenditure.	Receipts.	Net expenditure after deducting receipts.	Number of patients admitted.	Average annual cost per bed calculated on the gross expenditure.	Average daily cost per bed calculated on the gross expenditure.	Average annual cost per bed calculated on the net expenditure.	Average daily cost per bed calculated on the net expenditure.	Cost of maintenance alone per bed per diem
		£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.
1912-13 ..	223	10,540 4 6	702 16 1	9,837 8 5	3,199	46 4 3½	0 2 6¼	43 1 3¼	0 2 4¼	0 10¼
1913-14 ..	217	10,692 2 2	741 17 7	9,850 4 7	2,700	48 6 1½	0 2 7¾	44 8 6¼	0 2 5	0 10¾
1914-15 ..	207	10,869 4 11	725 15 4	10,143 9 7	2,903	52 10 2	0 2 10½	49 0 0	0 2 8¼	0 10½
1915-16 ..	192	10,417 4 9	862 9 6	9,554 15 3	3,072	54 5 2	0 2 11¾	49 15 3	0 2 8¾	0 10¼
1916-17 ..	236	11,989 2 10	1,327 13 1	10,661 9 9	3,983	43 13 3	0 2 4¾	39 6 2	0 2 1¾	0 10¾
1917-18* ..	262	13,542 10 10	1,585 10 4	11,957 0 6	3,689	51 13 9	0 2 10	45 12 9	0 2 6	1 2¼

\* Total costs of Maintenance

Less for feeding of 16 nurses (10 at 8/1., and 6 at 6/1., per week) in nursing home

£5,634 15 0

304 17 0

5,329 18 0

This amount includes £273 0s. 0d., for Hospital probationers.

TABLE I.—Summary of Financial year 1917-1918.

	Males.	Females.	Total.
Patients remaining in hospital 1st April 1917 ..	163	99	262
Patients admitted during the year 1917-1918 ..	2,313	1,376	3,689
Total Patients treated .. ..	2,476	1,475	3,951
Of those were cured .. ..	1,394	803	2,197
Of those were relieved .. ..	510	280	790
Of those were not relieved .. ..	174	104	278
Of those died .. ..	237	188	425
Remaining in hospital March 31st, 1918 ..	161	100	261
	2,476	1,475	3,951

TABLE II.—Death Rate 10.75%.

Daily average number of beds occupied by male patients ..	169.7
Daily average number of beds occupied by female patients ..	94.6
Average stay in days of those who died—males ..	13.56
Average stay in days of those who died—females ..	14.88
Average stay in days of males discharged ..	26.73
Average stay in days of females discharged ..	29.37
Average stay in days of males remaining at the end of the year ..	29.94
Average stay in days of females remaining at the end of the year ..	35.85
Longest stay of any one Patient in Hospital ..	365

TABLE III.—Patients who have died within the following hours after admission.

	HOURS.				Total.
	12	24	48	72	
Males ..	31	20	40	20	111
Females ..	18	14	20	21	73
	49	34	60	41	184

TABLE IV. Public Hospital, Kingston—Model

DISEASE.	April.		May.		June.		July.		August.		September.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Enteric Fever .. ..	23	2	27	5	19	4	24	8	25	4	17	1
Dysentery .. ..	2	..	2	..	1	1	2	..	..	..	1	1
Pneumonia .. ..	19	7	20	3	15	4	11	4	17	4	8	4
Influenza .. ..	3	..	3	..	3	..	1	..	3	..	2	..
Malarial Fever—												
(a) Subtertian .. ..	16	1	15	3	16	..	9	..	11	1	14	1
(b) Quartan .. ..	..	..	..	..	..	..	..	..	1	..	..	..
Tetanus .. ..	..	..	..	..	1	1	1	1	..	..	1	..
Pellagra .. ..	4	2	6	..	..	..	..	..	..	..	..	..
Erysipelas .. ..	..	..	..	..	..	..	..	..	..	..	1	1
Septicæmia .. ..	..	..	..	..	..	..	2	2	..	..	1	1
Pulmonary Tuberculosis .. ..	7	2	4	..	11	5	5	1	6	1	7	..
Syphilis—												
(a) Primary .. ..	5	..	4	..	10	..	9	..	5	..	5	..
(b) Secondary .. ..	3	..	1	..	5	..	1	..	..	..	5	..
(c) Tertiary .. ..	3	..	3	..	2	1	3	3	4	..	2	..
(d) Congenital .. ..	..	..	..	..	3	1	..	..	1	1	..	..
Gonorrhœa and Sequela .. ..	13	..	15	1	20	..	19	1	33	..	27	..
Chancroids .. ..	7	..	12	..	18	1	17	..	13	..	8	..
Rheumatism .. ..	3	..	1	..	6	..	3	1	2	..	2	..
New Growth—												
(a) Malignant .. ..	1	..	5	..	3	1	4	1	2	..	1	..
(b) Non-malignant .. ..	5	..	2	..	1	..	2	..	5	1	4	1
Anæmia .. ..	..	..	2	..	1	..	..	..	1	..	..	..
Debility .. ..	1	1	..	..	..	..	2	..	..	..	..	..
Appendicitis .. ..	1	1	1	..	..	..	..	..	..	..	..	..
Whooping Cough .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Measles .. ..	4	..	9	..	14	..	14	..	5	..	7	..
LOCAL DISEASES—												
Nervous System—												
Brain and Apoplexy .. ..	2	1	3	2	5	4	5	3	4	3	7	5
Nerves .. ..	21	..	22	1	12	..	10	1	9	..	9	..
Spinal Cord .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Epilepsy .. ..	2	..	..	..	1	..	1	..	..	..	2	..
Paralysis .. ..	1	..	2	1	1	..	1	..	..	..	..	..
Hysteria .. ..	..	..	2	..	1	..	..	..	..	..	1	..
MENTAL DISEASES—												
Mania .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Dementia .. ..	..	..	..	..	..	..	1	..	..	..	..	..
Melancholia .. ..	1	..	..	..	..	..	1	..	..	..	..	..
DISEASE OF—												
Eye .. ..	11	..	12	..	2	..	11	..	7	..	4	..
Ear .. ..	..	..	..	..	..	..	1	..	2	..	..	..
Nose .. ..	..	..	1	..	..	..	..	..	..	..	1	..
Circulatory System .. ..	11	6	12	1	6	2	11	5	7	..	7	3
Respiratory System .. ..	17	7	7	1	9	2	10	2	8	..	10	2
Digestive System .. ..	52	10	50	7	38	8	40	8	39	3	33	5
Lymphatic System .. ..	14	..	13	1	2	..	7	..	6	..	7	..
Urinary System .. ..	17	8	12	6	18	6	11	4	9	3	14	4
GENERATIVE ORGANS—												
Male Organs .. ..	6	..	8	..	10	..	7	1	7	..	9	..
Female Organs .. ..	5	..	9	..	9	..	12	..	13	..	10	..
Cellular Tissue .. ..	12	..	7	..	6	..	13	..	6	..	11	..
Skin .. ..	10	..	8	1	15	..	21	..	15	..	25	..
Bones and Joints .. ..	14	..	10	..	14	..	10	..	15	..	5	..
Local Injuries .. ..	15	2	19	1	15	..	10	..	11	..	11	..
Malformation .. ..	..	..	..	..	..	..	..	..	1	..	..	..
Poisons .. ..	..	..	..	..	..	..	..	..	2	..	1	1
Parasites .. ..	1	..	1	..	2	..	4	1	5	..	7	1
No disease .. ..	2	..	3	..	2	..	1	..	3	..	1	..
Simple Fever .. ..	2	..	2	..	2	..	2	..	..	..	4	..
Peritonitis .. ..	3	3	1	..	..	..	2	2	1	1	..	..
Jaundice .. ..	..	..	..	..	1	..	..	..	..	..	..	..
Leprosy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Dentition .. ..	..	..	..	..	1	1	..	..	..	..	..	..
Framboesia .. ..	..	..	..	..	..	..	1	..	..	..	..	..
Pregnancy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Total .. ..	339	46	336	34	321	42	322	50	304	23	282	32



## Report —Nosological Returns, 1917-1918.

October.		November.		December.		January.		February.		March.		Total.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
15	3	20	1	40	6	19	6	14	1	24	6	267	47
4	1	4	..	3	1	1	..	1	..	1	..	22	4
8	2	5	2	2	..	10	7	8	3	13	2	136	43
5	..	1	..	4	..	12	..	4	..	5	..	46	..
26	2	34	1	52	3	30	1	19	3	8	2	250	18
..	..	..	..	..	..	..	..	..	..	..	1	1	..
..	..	1	..	1	..	2	1	1	..	..	..	8	3
..	..	..	..	..	..	..	..	..	..	1	..	11	2
..	..	..	..	..	..	..	..	..	..	..	..	1	1
3	3	1	1	..	..	2	1	1	1	..	..	10	9
5	1	7	3	13	4	9	4	7	4	5	1	86	26
5	..	8	..	4	..	5	..	4	..	7	..	76	..
2	..	8	..	1	..	4	..	..	..	1	..	31	..
1	..	6	1	7	..	9	..	3	..	6	..	49	5
1	..	..	..	2	..	3	2	1	..	1	1	12	5
27	..	14	..	20	..	22	..	23	..	20	..	253	2
3	..	1	..	5	..	5	..	6	..	3	..	98	1
..	..	1	..	9	..	5	..	6	..	4	..	52	1
3	1	6	2	..	..	5	..	..	..	3	..	33	5
4	..	3	..	1	..	1	..	2	..	2	..	32	2
..	..	1	..	3	..	4	..	3	..	2	..	17	..
..	..	1	..	..	..	1	..	1	..	..	..	6	1
2	..	4	..	..	..	..	..	..	..	..	..	8	1
..	..	..	..	..	..	1	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	53	..
3	1	3	1	6	3	10	3	..	..	6	4	54	30
5	..	7	..	3	..	6	..	5	..	2	..	111	2
1	..	..	..	..	..	..	..	..	..	..	..	1	..
1	..	1	..	..	..	4	..	..	..	..	..	11	..
1	..	1	..	1	..	..	..	..	..	..	..	8	1
1	..	..	..	..	..	..	..	..	..	1	..	6	..
1	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	1	..	..	..	..	..	..	..	..	..	2	..
..	..	1	..	..	..	..	..	..	..	..	..	3	..
8	..	8	..	9	..	6	..	6	..	4	..	88	..
..	..	..	..	..	..	..	..	1	..	..	..	4	..
..	..	1	..	..	..	..	..	1	..	..	..	4	..
1	1	4	..	3	1	11	4	9	1	6	2	88	26
6	1	10	..	9	..	5	..	10	1	5	..	106	9
37	3	35	3	42	7	39	5	28	4	34	3	457	58
6	..	12	..	6	..	7	..	9	..	4	..	93	1
11	6	9	5	8	2	11	4	10	4	12	1	142	53
8	..	3	..	4	..	7	..	6	..	7	..	82	1
16	..	8	..	20	..	16	..	14	..	16	..	148	..
10	..	7	..	3	..	13	..	6	..	16	..	105	..
22	..	10	..	18	..	16	..	8	..	14	..	182	..
11	..	7	..	11	1	13	..	10	..	8	..	128	1
8	1	11	..	9	..	13	..	12	..	12	1	146	6
..	..	..	..	..	..	..	..	..	..	..	..	1	..
1	1	1	1	1	..	1	..	..	..	5	2	12	5
11	..	7	..	5	..	2	..	5	..	10	..	60	2
..	..	1	..	2	..	1	..	1	..	1	..	18	..
2	..	9	..	12	..	7	..	4	..	4	..	50	1
..	..	1	..	1	..	2	1	1	..	1	1	13	8
..	..	..	..	..	..	..	..	..	..	1	..	2	..
..	..	1	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	1	1
..	..	..	..	5	..	..	..	1	..	2	..	9	..
..	..	..	..	2	..	..	..	..	..	..	..	2	..
290	27	285	21	347	29	340	39	251	22	272	26	3,689	390

TABLE V.—Model Report—Nosological Return

DISEASE.	April.		May.		June.		July.		August.		September.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Abscesses—Incisions of .. ..	1	..	3	..	6	..	2	0	1	..	2	..
Abdominal Section for—												
Appendectomy .. ..	1	1	1	..	1	..	..	..	..	..	1	..
Ovariotomy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Oophorectomy (Double) .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Hysteroetomy .. ..	1	..	1	..	..	..	1	..	2	1	2	1
Gastro-jyunostomy .. ..	..	..	..	..	..	..	..	..	1	1	..	..
Pyo-Salpynx .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Exploratory-Laparatomy .. ..	..	..	2	..	2	..	..	..	..	..	..	..
Intestinal obstruction .. ..	..	..	..	..	1	1	..	..	..	..	1	..
Amputations—												
Leg .. ..	1	..	..	..	..	..	1	1	..	..	..	..
Hand .. ..	..	..	..	..	1	..	..	..	..	..	..	..
Breast .. ..	1	..	..	..	1	..	1	..	1	..	..	..
Penis .. ..	..	..	..	..	..	..	..	..	..	..	1	..
Finger .. ..	2	..	..	..	2	..	..	..	1	..	..	..
Toe .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Bones—												
Sequestrotomy .. ..	..	..	..	..	1	..	..	..	1	..	..	..
Bladder and Urethra												
Dilatation of Stricture .. ..	1	..	3	..	1	..	2	..	2	..	2	..
Pereneal Section .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Suprapubic cystotomy (for stones) .. ..	..	..	1	1	..	..	..	..	..	..	..	..
Prostatectom (Freyers) .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Eye, on—												
Enucleation of eyeball .. ..	2	..	1	..	1	..	4	..	..	..	..	..
Extraction of Cataract with Iredec-												
tomy .. ..	..	..	..	..	..	..	3	..	..	..	..	..
Extraction of Cataract without												
Iredec-tomy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Needling Cataract .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Removal of Pterigium .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Face, Nose and Mouth—												
Nasal Polypus .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Tonsils .. ..	..	..	1	..	..	..	..	..	..	..	..	..
Adenoids .. ..	..	..	2	..	..	..	..	..	..	..	..	..
Glands, Removal of—												
Inguinal .. ..	12	..	15	..	8	..	7	..	10	..	2	..
Cervical .. ..	..	..	..	..	..	..	1	..	1	..	1	..
Sub-maxillary .. ..	..	..	..	..	..	..	..	..	1	..	..	..
Axillary .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Scraping of—												
Inguinal .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Cervical .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Hernia—												
Radical cure for .. ..	2	..	2	..	4	..	6	..	5	..	1	..
Herniotomy for strangulated hernia .. ..	1	..	1	1	1	..	..	..	..	..	..	..
Male Generative Organs—												
Radical cure for hydrocele .. ..	..	..	..	..	..	..	..	..	..	..	1	..
Radical cure for varicocele .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Circumcission .. ..	9	..	21	..	25	..	18	..	24	..	10	..
Cauterising of Chancroids .. ..	1	..	..	..	..	..	..	..	..	..	..	..
Unilateral Orchestomy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Female Generative Organs—												
Cureting .. ..	1	..	3	..	6	..	4	..	5	..	3	..
Recto Vaginal Fistula .. ..	..	..	..	..	..	..	..	..	..	..	1	..
Cauterizing Urethral Caruncle .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Amputation of Cervix uteri .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Ventral fixation .. ..	..	..	..	..	..	..	1	..	..	..	..	..
Rectum and Anus—												
Dilating Rectal Stricture .. ..	..	..	..	..	..	..	..	..	..	..	2	..
Hæmorrhoids .. ..	1	..	1	..	..	..	1	..	..	..	1	..
Fistula in Ano .. ..	..	..	..	..	2	..	1	..	3	..	..	..
Removal of toe-nails .. ..	1	..	2	..	1	..	..	..	1	..	1	..
Trephining for compound depressed frac-	..	..	..	..	..	..	..	..	..	..	..	..
ture of skull .. ..	..	..	..	..	..	..	..	..	..	..	..	..



## Surgical Operations, 1917-1918.

October.		November.		December.		January.		February.		March.		Total.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
2	..	5	..	1	..	4	..	3	..	4	..	34	..
..	..	2	..	1	..	..	..	..	..	..	..	7	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	2	..	1	..	1	..	1	..	1	..	14	2
..	..	..	..	..	..	1	..	..	..	1	..	2	1
..	..	..	..	..	..	1	..	..	..	..	..	1	..
..	..	..	..	..	..	1	..	1	..	..	..	6	..
..	..	..	..	..	..	..	..	..	..	..	..	2	1
..	..	2	1	1	..	1	..	1	..	..	..	7	2
..	..	..	..	1	..	..	..	..	..	..	..	1	..
..	..	1	..	1	..	..	..	..	..	..	..	6	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	2	..	1	..	1	..	..	..	1	..	10	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	1	..	1	..	1	..	..	..	2	..	7	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	1	..	..	..	1	..	2	..	..	..	15	..
..	..	..	..	..	..	..	..	1	1	..	..	3	1
..	..	..	..	..	..	..	..	..	..	..	..	1	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	1	..	2	..	1	..	1	..	2	..	18	..
1	..	..	..	2	..	..	..	..	..	2	..	8	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	..	..	..	..	..	..	1	..
1	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	1	..	..	..	..	..	..	..	1	..	3	..
..	..	1	..	..	..	..	..	..	..	..	..	3	..
8	..	5	..	5	..	2	..	4	..	5	..	83	..
..	..	2	..	1	..	..	..	..	..	1	..	5	..
..	..	..	..	1	..	..	..	1	..	..	..	3	..
..	..	..	..	..	..	..	..	..	..	..	..	2	..
..	..	..	..	..	..	..	..	..	..	1	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	..	6	..	2	..	2	..	..	..	2	..	38	..
..	..	..	..	..	..	1	..	..	..	..	..	4	1
..	..	..	..	1	..	..	..	..	..	..	..	2	..
15	..	11	..	5	..	13	..	13	..	6	..	170	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..	7	..	11	..	9	..	10	..	9	..	72	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	2	..	1	..	..	..	3	..
..	..	2	..	..	..	..	..	..	..	..	..	8	..
..	..	..	..	..	..	..	..	..	..	..	..	8	..
4	..	3	..	..	..	5	..	1	..	1	..	20	..
..	..	..	..	..	..	1	..	..	..	..	..	1	..

TABLE V.—Public Hospital, Kingston, —Model

DISEASE.	April.		May.		June.		July.		August.		September.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Tumours and Cysts—												
Prepatella Bursa ..	..	..	..	..	..	..	..	..	..	..	..	..
Melbenian Cyst ..	..	..	..	..	..	..	..	..	..	..	1	..
Lipoma ..	..	..	..	..	..	..	..	..	1	..	..	..
Fibroma ..	..	..	..	..	..	..	1	..	..	..	..	..
Cystic Tumours ..	..	..	..	..	..	..	..	..	..	..	..	..
Gangrene ..	..	..	..	..	..	..	..	..	..	..	..	..
Sebaceous Cyst ..	..	..	..	..	..	..	..	..	..	..	..	..
Miscellaneous—												
Examination ..	..	..	1	..	..	..	..	..	..	..	..	..
Scraping Chronic Ulcers ..	1	..	1	..	2	..	1	..	..	..	..	..
Scraping Sinuses ..	..	..	2	..	1	..	..	..	..	..	..	..
Ligaturing Varicose veins ..	..	..	..	..	..	..	2	..	..	..	..	..
Excision of Carbuncle ..	..	..	..	..	..	..	..	..	..	..	1	..
Erasion of knee-joint ..	..	..	..	..	..	..	..	..	..	..	..	..
Extraction of bullet ..	..	..	..	..	..	..	..	..	..	..	..	..
Removal of warts ..	..	..	..	..	..	..	..	..	..	..	..	..
Exploratory Incisions ..	1	..	..	..	..	..	..	..	..	..	..	..
Ligaturing Arteries ..	..	..	..	..	..	..	..	..	..	..	1	..
Suturing Tendons ..	..	..	..	..	..	..	1	..	..	..	..	..
Minor Operations performed without Chloroform ..	27	..	35	..	30	..	37	..	33	..	24	..
Incisions of Abscesses ..	1	..	3	..	7	..	7	..	4	..	4	..
Removal of foreign bodies ..	17	..	8	..	7	..	8	..	5	..	4	..
Dilation of Stricture ..	7	..	1	..	3	..	2	..	2	..	5	..
Tapping hydrocel ..	16	..	8	..	8	..	4	..	9	..	5	..
Removal of Tonsils ..	1	..	..	..	1	..	2	..	1	..	3	..
Reducing dislocations ..	..	..	1	..	2	..	2	..	4	..	3	..
Removal Pterygium ..	..	..	..	..	1	..	..	..	1	..	..	..
Removal of finger-nail ..	..	..	..	..	..	..	..	..	1	..	3	..
Scraping Adenoids ..	..	..	..	..	1	..	..	..	..	..	..	..
Setting Fractures ..	..	..	..	..	..	..	..	..	..	..	..	..
Grand Total ..	109	1	121	2	121	1	120	1	120	2	87	11



## Report—Nosological Returns, Operations, 1916-18.

October.		November.		December.		January.		February.		March.		Total.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
..	..	..	..	..	..	..	..	..	..	2	..	2	..
..	..	1	..	..	..	..	..	..	..	1	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	2	..
..	..	3	..	..	..	..	..	..	..	1	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	5	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	4	..	..	..	3	..	..	..	..	..	11	..
2	..	2	..	..	..	1	..	1	..	..	..	11	..
1	..	1	..	..	..	..	..	..	..	..	..	5	..
..	..	..	..	..	..	..	..	..	..	..	..	2	..
..	..	..	..	..	..	..	..	..	..	1	..	2	..
..	..	..	..	..	..	1	..	1	..	..	..	2	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	1	..	..	..	2	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
19	..	20	..	15	..	13	..	11	..	18	..	282	..
4	..	4	..	5	..	..	..	3	..	5	..	47	..
6	..	8	..	9	..	6	..	7	..	3	..	108	..
5	..	2	..	1	..	4	..	2	..	5	..	39	..
10	..	4	..	4	..	2	..	3	..	9	..	82	..
1	..	2	..	5	..	..	..	..	..	2	..	20	..
..	..	..	..	..	..	..	..	..	..	1	..	13	..
1	..	..	..	1	..	..	..	..	..	..	..	4	..
2	..	3	..	..	..	..	..	..	..	1	..	10	..
..	..	..	..	..	..	..	..	..	..	..	..	1	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..
101	..	109	1	75	..	77	..	73	1	87	.	1226	10

TABLE VI.

Countries.	No.
Africa .. ..	3
America .. ..	5
Antigua .. ..	3
Arabia .. ..	1
Assyria .. ..	1
Barbadoes .. ..	15
Belgium .. ..	1
British Guiana .. ..	1
Canada .. ..	1
Cayman Brac .. ..	1
China .. ..	12
Colombia .. ..	3
Colon .. ..	3
Costa Rica .. ..	4
Cuba .. ..	2
Cyprus .. ..	1
Demerara .. ..	4
Denmark .. ..	3
Egypt .. ..	2
England .. ..	16
France .. ..	1
Grand Cayman .. ..	3
Grenada .. ..	1
Hayti .. ..	1
Holland .. ..	4
Hong Kong .. ..	1
India .. ..	68
Ireland .. ..	6
Jamaica .. ..	3,496
Malta .. ..	1
Nassau .. ..	1
Newfoundland .. ..	1
New Zealand .. ..	1
Norway .. ..	1
Panama .. ..	3
Portugal .. ..	3
Russia .. ..	2
St. Croix .. ..	1
St. Lucia .. ..	1
Scotland .. ..	1
Spain .. ..	3
Sweden .. ..	3
Trinidad .. ..	2
Turks Island .. ..	1
Wales .. ..	1
Total	3,689

TABLE VII.

Parishes.	No.
Kingston .. ..	2,501
Port Royal .. ..	98
St. Andrew .. ..	884
St. Thomas .. ..	7
Portland .. ..	16
St. Mary .. ..	22
St. Ann .. ..	10
Trelawny .. ..	5
St. James .. ..	4
Westmoreland .. ..	3
St. Elizabeth .. ..	7
Manchester .. ..	6
Clarendon .. ..	8
St. Catherine .. ..	60
Foreign .. ..	58
Total	3,689

TABLE VIII.

Occupations.	No.
Accountant .. ..	4
Apprentices .. ..	7
Auctioneers .. ..	1
Bakers .. ..	31
Barbers .. ..	6
Blacksmiths .. ..	10
Boatmen .. ..	2
Boilermakers .. ..	1
Brakesman .. ..	4
Brewers .. ..	1
Bricklayers .. ..	19
Busmen .. ..	14
Butchers .. ..	14
Butlers .. ..	12
Cabinetmakers .. ..	5
Cakesellers .. ..	2
Carpenters .. ..	65
Cartmen .. ..	21
Captains .. ..	1
Chauffeurs .. ..	11
Cigarmakers .. ..	19
Clergymen .. ..	1
Clerks .. ..	61
Coachbuilders .. ..	1
Coachmen .. ..	23
Compositors .. ..	3
Cooks .. ..	29
Coopers .. ..	12
Conductors .. ..	6
Contractors .. ..	2
Constables .. ..	351
Dentists .. ..	1
Dispensers .. ..	1
Distillers .. ..	1
Divers .. ..	2
Draymen .. ..	8
Electricians .. ..	4
Engineers .. ..	9
Enginedrivers .. ..	3
Firemen .. ..	36
Fishermen .. ..	50
Fitters .. ..	17
Foremen .. ..	2
Gardeners .. ..	27
Goldsmiths .. ..	6
Greasers .. ..	2
Grooms .. ..	4
Hatmakers .. ..	19
Headmen .. ..	2
Higglers .. ..	86
Jockeys .. ..	5
Labourers .. ..	597
Laundresses .. ..	256
Machinists .. ..	7
Masons .. ..	1
Mechanics .. ..	20
Messengers .. ..	5
Milliners .. ..	1
Militiamen .. ..	49
Motormen .. ..	3
Moulders .. ..	1
Musicians .. ..	6
None .. ..	789
Nurses .. ..	48
Officers (Contingent) .. ..	1
Painters .. ..	13
Peddlers .. ..	11
Pianists .. ..	1
Pilots .. ..	1
Planters .. ..	55
Plumbers .. ..	3



TABLE VIII., continued.

Occupations.	No.	Occupations.	No.
Porters .. .. .	6	Stewards .. .. .	7
Postmen .. .. .	1	Stenographers .. .. .	1
Postmistresses .. .. .	1	Storemen .. .. .	13
Printers .. .. .	6	Surveyors .. .. .	1
Produce Dealers .. .. .	1	Tailors .. .. .	34
Renovators .. .. .	3	Tanners .. .. .	1
Saddlers .. .. .	2	Telegraph Operators .. .. .	1
Sanitary Inspectors .. .. .	1	Telephone Operators .. .. .	2
Sawyers .. .. .	1	Tinsmiths .. .. .	4
Schoolmasters .. .. .	3	Tobacconists .. .. .	3
Seamen .. .. .	41	Trimmers .. .. .	1
Seamstresses .. .. .	138	Typists .. .. .	2
Servants .. .. .	314	Vendors (News) .. .. .	1
Shipwrights .. .. .	1	Volunteers (Contingent) .. .. .	132
Shoemakers .. .. .	45	Watchmen .. .. .	2
Shopkeepers .. .. .	17	Wharfingers .. .. .	1
Shopservers .. .. .	8		
Stevedores .. .. .	2		
		Total	3,689

TABLE IX.

	1916-17.	1917-18.
No. of Patients treated under Tickets from Inspector of Poor	820	1,772
No of Prescriptions made up for the above .. .. .	5,706	6,120
No. of Casual patients treated without tickets .. .. .	11,728	13,263
No. of Prescriptions for the above .. .. .	7,036	7,360
No. of Prescriptions for constables and prisoners in Lock-Up .. .. .	1,030	1,027
No. of Minor surgical operations performed in the Surgery .. .. .	473	616
No. of Out-patients dressings applied .. .. .	30,583	41,236
<i>Night Clinique.</i>		
No. of patients attended (16 nights in 1916-17) .. .. .	627	7,903
No. of prescriptions for above .. .. .	853	10,920
No. of doses of Diarsenol administered .. .. .	—	500

TABLE X.—Attendances at Evening Clinics from 1st April, 1917, to 31st March, 1918.

	SYPHILIS.		GONORRHOEA.		BUBO AND CHANCROID.	
	Males.	Females.	Males.	Females.	Males.	Females.
April ..	34	10	54	16	22	14
May ..	26	9	53	22	10	8
June ..	24	4	44	19	30	6
July ..	28	13	31	22	22	4
August ..	39	7	47	58	54	9
September ..	28	8	49	61	28	5
October ..	28	9	54	56	29	4
November ..	35	18	65	67	20	7
December ..	28	10	47	70	14	2
January ..	30	15	37	70	34	8
February ..	23	25	52	53	46	7
March ..	36	18	44	42	30	4
Total	359	146	577	556	349	78

TABLE XI.

Number of cases of Syphilis admitted to male Venereal ward ..	162
Number of cases of Gonorrhœa, etc., admitted to male venereal ward ..	351
Number of Wasserman tests done .. .. .	200
Number of Salvarsan (or other) injections given .. .. .	558
Number discharged from ward cured—	
(a) Syphilis .. .. .	20
(b) Gonorrhœa, etc. .. .. .	186
Number who refused to remain until cured—	
(a) Syphilis .. .. .	142
(b) Gonorrhœa, etc. .. .. .	165
Number of cases attended in out-patient Department other than those at Night Cliniques—	
(a) Syphilis .. .. .	44
(b) Gonorrhœa, etc. .. .. .	487

Superintending Medical Officer,  
Kingston.

# VICTORIA JUBILEE LYING-IN HOSPITAL.

Report for year ended 31st March, 1918.

Kingston, March 31st, 1918.

Sir,

I have the honour to submit the report of the Victoria Jubilee Lying-in Hospital for the year ended March 31st, 1918.

The number of patients admitted during the year was 593 against 594 of the previous year, 425 of these patients were black, 154 coloured, 10 white, 3 coolies, 1 Chinese. 183 were married.

506 patients came from Kingston, 75 St. Andrew, 12 from more remote parishes.

There were 4 deaths, 2 from puerperal convulsions, one each from pneumonia and nephritis.

The number of infants born was 484, of these 269 were males, 215 females. There were 9 cases of twins, 31 infants were still born, 24 of this number were macerated. 14 were premature and very feeble and only lived from one to three hours after birth.

11 nurses were admitted for training. 10 completed their course and were granted certificates. One left on account of ill-health.

I think it due to the nursing staff to mention one case out of many. During the year a baby was born of an eclamptic mother weighing 1½ lbs. It went down to 1 lb. in weight, but by careful management and unflinching attention the infant gained 3 lbs. and lived six weeks. We could not hope to rear the baby, but it clearly shows what careful nursing can do.

The following presents were received during the year. Dr. and Mrs. Ker gave £2, sweets, preserves and fruit and kindly helped at the Christmas day dinner for the nurses and patients.

Dr. Grabham gave a ham for New Years Day, Mrs. Ella Gillies of Levensdale, Waterloo Road, St. Andrew, gave a splendid turkey; Miss McCarthy, Clan Carthy, gave sweets, crackers and fancy serviettes and a pair of ducks. Mrs. Silvera, Halifax, Gayle, gave Ice Cream and a cake. Mrs. McNeil Smith, Santa Cruz Mountains, kindly sent a large barrel of grape fruits. During the mango season a quantity of fruit was received from King's House. On Christmas Day Mrs. Park distributed rattles to the babies.

We did not receive any babies clothes last year, an omission that was keenly felt. I now make a special appeal to any lady or ladies to help this very deserving cause.

I have, etc.

M. GRABHAM,  
Visiting Medical Officer, Victoria Jubilee Hospital.

The Suptg. Medical Officer,  
Kingston.

## SYNOPSIS OF CASES.

### *Diseases and Deformities, etc., contd.*

#### *Presentations—*

Vertex	456
Unreduced Occipito posterior	8
Breech	11
Transverse	6
Face	2
Hand and foot	1

#### *Operations—*

Version	15
Application of forceps	6
Curettage	37
For ruptured perineum	47
For retained placenta	6
For retained membranes	7
For recto-vaginal fistula	1

#### *Diseases and Deformities affecting the Infant—*

Abscess of face	1
Anencephalous head	1
Cephalhaematoma	2
Club foot	2
Congenital cataract	1
Convulsions	6
Deformed arms and legs	1
Extra fingers	4
Extra toes	2
Encephalocele	3
Hair lip and cleft palate	1
Hæmorrhagic diathesis	4
Hypospadias	1
Non-union of inferior maxillae	1
Ophthalmia	14

Pemphigus neonatorum	1
Spina bifida	1
Umbilical hernia	3

#### *Diseases and complications affecting the Mother—*

Abscess vaginal	1
Albuminuria	168
Cellulitis pelvic	1
Colitis	2
Enteric Fever	2
Eclampsia	12
Epilepsy	1
Fibroid tumours of uterus	3
Heart disease	1
Hydramnios	3
Haemorrhage, post partum	14
Hæmorrhage, accidental	1
Impetigo	1
Labia, fibroma of	1
Miscarriages	7
Phthisis	1
Placenta prævia	4
Placenta velamentous	1
Placenta, succenturiate	1
Placenta adherent	4
Placenta retained	3
Polypus of cervix	1
Pneumonia	2
Pruritus of vulva	1
Puerperal mania	1
Pelvis, uniformly contracted	2
Sapraemia	3
Vesicular mode	1



Financial Return of the Victoria Jubilee Lying in Hospital for the six years ended 31st March, 1913, 1914, 1915, 1916, 1917 and 1918.

Year.	Average daily no. of beds occupied.	Gross Expenditure.	Receipts.	Net expenditure after deducting receipts.	No. of patients admitted.	Average annual cost per occupied bed calculated on the gross expenditure.	Cost of maintenance alone per occupied bed per diem.	Daily cost per occupied bed calculated on the gross expenditure.	Average annual cost per occupied bed calculated on the net expenditure.	Average daily cost per occupied bed calculated on the net expenditure.
		£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1912-13 ..	30	1,430 12 9	366 8 6	1,064 4 3	653	47 13 9	0 0 11	0 2 7½	35 9 5½	0 1 11½
1913-14 ..	27	1,245 4 3	573 16 4	671 7 11	634	46 2 4½	0 0 9¾	0 2 6¼	24 17 4	0 1 4½
1914-15 ..	28	1,243 19 1	545 6 1	698 13 0	651	44 8 6½	0 0 8¾	0 2 5	24 19 0½	0 1 4½
1915-16 ..	23	1,199 12 10	465 2 6	734 10 4	517	52 3 2	0 0 10	0 2 10	31 18 8½	0 1 9
1916-17 ..	25	1,218 5 6	577 15 0	640 10 6	594	48 14 7	0 0 9¾	0 2 10	25 12 5	0 1 5
1917-18 ..	*25	1,340 11 9	529 19 0	810 15 9	593	53 12 7	0 1 0¾	0 2 11¼	32 8 7½	0 1 6¾

*Includes Patients	..	..	14
do. Pupil Nurses	..	..	9
do. Charge Nurses	..	..	1
do. Head Nurse	..	..	1

Numerical Summary of results since the opening of the Institution.

Year.	No. of Patients.	Race.					Infants.				Deaths.	No. of Nurses trained.
		Black.	Coloured.	Chinese.	Coolies.	White.	Male.	Female	Twins.	Still-brn.		
1892-93 ..	89	67	22	..	..	..	20	34	..	14	4	4
1893-94 ..	219	171	44	..	3	1	74	85	1	35	9	11
1894-95 ..	239	185	48	..	2	4	76	96	6	27	3	6
1895-96 ..	217	187	26	..	1	3	89	86	3	40	1	5
1896-97 ..	378	281	92	..	4	1	173	189	6	39	7	8
1897-98 ..	444	319	120	..	3	2	229	210	12	36	10	6
1898-99 ..	500	345	146	..	4	5	249	253	13	60	7	10
1899-1900 ..	581	382	196	..	2	1	277	283	11	66	9	9
1900-1901 ..	483	339	135	..	5	4	241	227	6	38	9	9
1901-1902 ..	785	589	235	..	7	4	379	374	10	58	7	8
1902-1903 ..	651	429	219	..	2	1	332	325	19	51	11	12
1903-1904 ..	813	593	205	..	3	9	394	405	21	78	11	9
1904-1905 ..	655	475	174	..	2	4	339	307	20	62	8	11
1905-1906 ..	415	248	156	..	4	7	198	214	8	36	10	9
1906-1907 ..	441	352	79	..	3	7	221	215	15	29	11	6
1907-1908 ..	434	270	161	..	3	..	243	155	14	40	7	8
1908-1909 ..	596	400	188	..	3	5	300	268	7	49	10	6
1909-1910 ..	650	380	265	..	4	1	330	319	10	53	9	7
1910-1911 ..	600	382	212	..	3	3	288	316	15	60	5	7
1911-1912 ..	746	481	155	..	5	5	345	364	16	71	8	7
1912-1913 ..	653	446	195	..	8	4	350	291	18	52	9	7
1913-1914 ..	634	417	209	..	3	5	288	296	13	46	8	10
1914-1915 ..	651	433	210	..	4	4	292	284	9	41	15	7
1915-1916 ..	517	343	158	..	9	7	259	219	12	36	7	7
1916-1917 ..	594	407	175	..	3	9	267	228	8	32	9	10
1917-1918 ..	593	425	154	1	3	10	269	215	9	31	4	10





# LUNATIC ASYLUM.

Report for the year ended 31st March, 1918.

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Sir,

I have the honour to submit the Annual Report of the Jamaica Lunatic Asylum for the twelve months ended 31st March, 1918, together with the usual statistical tables.

2. The total number of patients under treatment was 1,637 with an average number of 1,330.

Table I. shews the actual admissions, re-admissions, discharges and deaths during the year.

3. The total number of admissions were 310: of these 167 were males and 143 females, or an increase of 25 on the last year's admissions.

Had the Medical Superintendent not availed himself of the power conferred upon him by Law 16 of 1896, section 10, of refusing admission to unsuitable cases, this number would have been exceeded. Although reiterated annually that the Asylum is an institution for the treatment of patients suffering from mental diseases, yet many unsuitable cases are certified insane and sent here. Several old men and women in their dotage as well as a little girl nine years old were refused admission and sent to the Almshouses. Among the admissions were sixteen mental cases invalidated from the seat of war some of whom were suffering from shell-shock, others were of unstable mental organization and should never have been sent to the front.

Table Ia. shews the number of previous attacks among those admitted during the year, distinguishing those attacks which have been treated to recovery and discharged.

Of the total number admitted, 63 had suffered from one previous attack, 21 from two previous attacks, 6 from three previous attacks, 4 from four previous attacks and 5 had suffered from five or more previous attacks.

4. The number of patients discharged was 160. Of these 157 were discharged recovered, 85 males and 72 females, 2 males discharged relieved and one female discharged not improved while 5 escaped only to be captured after a few hours or days abroad. This record shews a satisfactory recovery-rate of 50.64 per cent. calculated on the total number admitted, in other words more than half the admissions were discharged recovered.

5. The number of deaths amounted to 121, or 45 men and 76 women, which is a marked improvement upon the death-rate of the previous twelve months when 234 inmates died. This lowered death rate indicates an improvement in the general health of the institution. The absence of dysenteric diarrhoeas, as well as a diminution in the number of pellagrins appears to be intimately connected with our improved diet, and our experience of pellagra confirms the opinion now generally held that the disease is a nutritional disorder due to absence of vitamins in the food. Since the outbreak of hostilities in Europe and the advance in the prices of imported food-stuffs, we had on economic grounds to substitute fresh beef for imported salt fish in our diet which in turn had the desired effect of practically eradicating the disease from our wards. This disease is very prevalent in certain parts of the United States and their Public Health Department is distributing copies of a paper describing its nature and the way in which it can be prevented. It is estimated that 125,000 persons with 6,000 deaths suffered last year from the disease in the United States. Studies indicate it is caused by an unbalanced diet consisting mainly of cereals, starches and fats, with but little of animal flesh food or milk; it is contended it may be prevented by a well-balanced diet, including sufficient quantities of milk, lean beef, beans, peas and green vegetables.

6. As stated above the general health of the Institution was very satisfactory and nothing calls for any special remarks.

7. The Public Works Department attended to all urgent and necessary repairs but most of the buildings and the Officers' quarters need painting whilst another ward for the accommodation of 100 inmates is required for the male division.

8. The grounds provided ample work and healthy recreation for the inmates many of whom are daily taken beyond the Courts to weed the grounds, repair roads and fences, wash and iron clothes, etc. A row of trees (cassia Siamea) was planted along the Windward Road boundary which very shortly will afford much needed shade for pedestrians using that way. 6,498lbs. of divi divi gathered by the inmates were sold to the Leather Factory and the proceeds handed over to General Revenue.

9. We gratefully acknowledge the valuable assistance rendered us by many kind friends to provide indoor entertainments for the inmates. Special mention must be made of Mrs. Melton-Adam, Miss Ivy DaCosta and the young ladies who assisted them with their respective concerts.

10. Our thanks are also due to the following ladies and gentlemen as well as the Clubs for a supply of illustrated paper and magazines to brighten our wards and relieve the tedium of our life.

Mrs. Jordan Andrews, Mrs. Neville Roots, John MacDonald, Esq., J.P., T. F. Clarke, Esq., The Jamaica Institute, The Jamaica and St. Andrew Clubs.

11. The Governor appointed R. W. Bryant, Esq., to be a member of the Board of Visitors of the Lunatic Asylum for such time as he may remain Mayor of Kingston.

The Honourable H. A. L. Simpson, O.B.E., was appointed member of the Board of Visitors in the room of the late Capt. Forwood.

12. His Majesty the King was graciously pleased to approve of the honour of a Member of the Most Excellent Order of the British Empire being conferred on the Matron of the Asylum, Miss Annie Douglas for services rendered in connection with the great war.

13. I regret having to record the death of Mr. Geo. W. Taylor, the late Clerk & Purveyor of the Asylum. The vacancy created by his retirement was filled by the appointment of R. R. Wynter, Esq., first class clerk in the office of the Inspector General, Police Department. On promotion to the grade of Second Class Clerk Mr. C. A. Rickards was transferred from the office of the Registrar-General to the office of the Asylum. Mr. A. E. Nicholas was appointed Acting Assistant Clerk.

14. Thanks to the liberality of Mrs. Michael deCordova and Mrs. Lionel deMercado the invalided members of the Jamaica War Contingent confined in the Asylum spent a merry Xmas regaled with cakes, ice-creams, bananas, oranges, grape juice, chocolates and cigarettes.

15. The sum voted for the maintenance of the Lunatic Asylum, including a special warrant for £3,989 was £28,944 1s. 7d. the amount spent was £28,416 10s. 3 $\frac{3}{4}$ d.

I have the honour to be,

Sir,

Your obedient servant.

D. J. WILLIAMS,

Medical Superintendent.  
28th June, 1918.



TABLE I. Shewing the actual admissions, re-admissions, discharges and deaths during the year ended 31st March, 1918.

	Males.	Females.	Total.	Males.	Females.	Total.
In Asylum 1st April, 1917	..	..	..	657	665	1,322
Cases admitted—						
First admissions	137	113	250			
Not first admissions	30	30	60			
Captured ..	4	1	5			
Birth ..	..	..	..			
Total cases admitted during the year	..	..	..	171	144	315
Total cases under care during the year	..	..	..	828	809	1,637
Cases discharged—						
Recovered ..	85	72	157			
Relieved ..	2	—	2			
Not improved ..	..	1	1			
Escaped ..	4	1	5			
Died ..	45	76	121			
Total discharged and died during the year	..	..	..	136	150	286
Remaining in Asylum 31st March, 1918			..	692	659	1,351
Average number resident during the year		..	..	667	663	1,330
Persons under care during the year ( <i>i.e.</i> , separate persons in contradistinction to cases which may include the same individual more than once)	..	..	..	825	807	1,632
Persons admitted do do	..	..	..	164	141	305
Persons recovered do do	..	..	..	85	72	157

TABLE Ia.—Shewing the number of previous attacks among those admitted during the year, 1917-1918, distinguishing those attacks that have been treated to recovery and discharged.

Number of previous attacks.	Having had previous attacks.					
	All attacks.			Attacks followed by discharge or recovery.		
	Males.	Females.	Total.	Males.	Females.	Total.
Have had 1 previous attack ..	27	36	63	5	6	11
Have had 2 previous attacks ..	10	11	21	4	2	6
Have had 3 previous attacks ..	5	1	6	2	1	3
Have had 4 previous attacks ..	1	3	4	1	1	2
Have had more than 5 attacks ..	1	4	5	..	..	..
	44	55	99	12	10	22

TABLE II.—Shewing the admissions, re-admissions, discharges and deaths for the past twenty-one years ended 31st March, 1918.

		Males.	Females.	Total.	Males.	Females.	Total.
		—	—	—	—	—	—
Remaining on 31st March, 1897		..	..	..	345	377	722
Admitted during the last twenty-one years		2,323	2,201	4,524			
Re-admissions	..	460	389	849			
Infant born in 1916-1917	..	..	1	1			
		—	—	—	—	—	—
Total number of admissions	..	..	..	..	2,783	2,591	5,374
					—	—	—
Total number under care	..	..	..	..	3,128	2,968	6,096
Discharged cases—							
Recovered	.. ..	1,271	1,161	2,432			
Relieved	.. ..	43	21	64			
Not improved	.. ..	26	13	39			
Died	.. ..	1,092	1,112	2,204			
Escaped and not captured	.. ..	4	..	4			
Infants discharged	.. ..		2	2			
		—	—	—			
Total discharged and died	..	..	..	..	2,436	2,309	4,745
					—	—	—
Remaining 31st March, 1918	..	..	..	..	692	659	1,351
					—	—	—
Average yearly number resident		..	..	..	534	543	1,077



TABLE III.—Shewing the Admissions, Discharges and Deaths, with the mean Annual Mortality, and the proportion of recoveries per cent. of the Admissions for each of the last twenty-one years.

Year.	Admitted.			Discharged.												Remained 31st March in each year.			Average number Resident.			Percentage of Recoveries on admission.			Percentage of Deaths on average number on Resident.		
				Recovered.						Died.																	
				Relieved.			Not Improved.																				
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.						
1897-98	109	95	204	34	34	68	..	..	2	..	2	25	44	69	393	394	787	377	382	759	31.19	36.84	34.01	6.63	11.16	8.89	
1898-99	88	80	168	66	53	119	..	..	2	2	4	32	31	63	381	386	767	386	388	774	75.	66.25	70.62	8.29	7.98	8.13	
1899-1900	96	93	189	34	32	66	1	..	2	2	4	38	30	68	402	417	819	390	399	789	35.41	34.41	34.90	9.74	7.52	8.63	
1900-01	104	96	200	48	42	90	2	..	2	..	..	32	27	59	424	444	868	414	430	844	46.15	43.75	44.95	7.72	6.27	6.99	
1901-02	99	83	182	55	48	103	3	1	4	2	2	40	38	78	423	440	863	423	439	862	55.55	57.83	56.69	9.45	8.65	9.05	
1902-03	118	108	226	41	35	76	..	..	..	..	..	25	29	54	475	484	959	456	459	915	43.74	32.40	33.57	5.48	6.31	5.89	
1903-04	105	101	206	34	33	67	..	..	..	3	3	38	57	95	505	495	1,000	492	480	972	32.38	32.67	32.52	7.72	11.87	9.79	
1904-05	124	116	240	53	37	90	..	1	1	3	1	37	74	111	536	498	1,034	520	502	1,022	42.74	31.89	37.31	7.11	14.74	10.92	
1905-06	134	96	230	52	53	105	11	4	15	1	..	44	42	86	562	495	1,057	545	503	1,048	38.80	55.20	47.	8.07	8.34	8.20	
1906-07	109	125	234	83	68	151	8	5	13	..	..	76	45	121	504	502	1,006	543	505	1,048	76.14	54.40	55.27	13.99	8.91	11.45	
1907-08	148	131	279	58	61	119	3	3	6	1	1	72	55	127	519	513	1,032	520	513	1,033	39.18	46.56	42.87	13.84	10.72	12.28	
1908-09	114	123	237	51	34	85	4	2	6	1	2	81	39	120	496	559	1,055	515	535	1,050	44.73	27.64	36.18	15.72	7.28	11.50	
1909-10	139	123	262	46	51	97	1	1	2	2	1	60	73	133	525	556	1,081	510	571	1,081	33.09	41.46	37.27	11.76	12.78	12.27	
1910-11	164	160	324	71	72	143	1	..	1	1	..	49	42	91	567	602	1,169	546	591	1,137	43.29	45.	44.14	8.97	7.10	8.03	
1911-12	138	130	268	67	77	144	3	2	5	1	..	40	51	91	593	602	1,195	581	602	1,183	48.55	59.23	53.89	6.88	8.47	7.67	
1912-13	160	189	349	73	61	134	..	..	..	1	..	45	50	95	634	680	1,314	625	647	1,272	45.62	32.27	38.94	7.2	7.72	7.46	
1913-14	162	156	318	69	89	158	1	..	1	1	..	77	53	130	647	694	1,341	637	686	1,323	42.59	57.05	49.82	12.08	7.72	9.90	
1914-15	158	171	329	69	87	156	2	..	..	1	2	41	69	110	692	707	1,399	670	716	1,386	43.67	50.87	47.27	6.11	9.63	7.87	
1915-16	192	140	332	80	60	140	..	1	1	1	1	62	86	148	741	700	1,441	715	712	1,427	41.66	42.85	47.25	8.67	12.07	10.37	
1916-17	155	130	285	102	62	164	1	1	2	2	..	133	101	234	657	665	1,322	694	697	1,391	65.80	47.69	57.79	19.16	14.49	16.82	
1917-18	167	143	310	85	72	157	2	..	2	45	1	45	76	121	692	659	1,351	667	663	1,330	50.89	50.34	50.61	6.74	11.46	9.10	
Totals	2,783	2,589	5, 72	1,271	1,161	2,432	43	21	64	1,092	1,112	2,204	11,368	11,492	22,860	11,226	11,420	22,646	976.07	946.60	962.17	201.33	201.19	201.25			
Average for 21 yrs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	541.33	547.23	1088.56	534.57	543.80	1078.37	46.47	45.07	45.77	9.58	9.58	9.58	











TABLE VI.—Shewing the length of residence in those discharged recovered and in those who have died during the year, 1917-18.

Length of Residence.	Recovered.			Died.		
	Males.	Females.	Total.	Males.	Females.	Males.
Under 1 month .. ..	11	..	11	6	9	15
From 1 to 3 months .. ..	15	5	20	5	3	8
From 3 to 6 months .. ..	19	14	33	8	10	18
From 6 to 9 " .. ..	13	22	35	4	3	7
From 9 to 12 " .. ..	19	12	31	1	2	3
From 1 to 2 years .. ..	4	12	16	5	6	11
From 2 to 3 " .. ..	1	2	3	1	4	5
From 3 to 5 " .. ..	3	2	5	4	9	13
From 5 to 7 " .. ..	..	1	1	..	7	7
From 7 to 10 " .. ..	..	..	..	2	5	7
From 10 to 12 " .. ..	..	..	..	1	1	2
From 12 to 15 " .. ..	..	2	2	..	4	4
From 15 to 20 " .. ..	..	..	..	2	5	7
From 20 to 25 " .. ..	..	..	..	2	6	8
From 25 to 30 " .. ..	..	..	..	1	..	1
From 30 to 35 " .. ..	..	..	..	2	..	2
From 35 to 40 " .. ..	..	..	..	..	1	1
Upwards of 40 " .. ..	..	..	..	1	1	2
	85	72	187	45	76	121

TABLE VII.—Showing the duration of the disorder on admission in the admissions, discharges and deaths during the year ended 31st March, 1918.

CLASS.	Admissions.			Discharges.						Deaths.		
				Recovered. Relieved or otherwise.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
First Class—First attack, and within 3 months on admission ..	107	80	187	63	42	105	..	1	1	23	47	70
Second Class—First attack, above 3 and within 12 months on admission ..	10	6	16	12	..	12	1	..	1	11	12	23
Third Class—Not first attack, and within 12 months on admission ..	32	42	74	5	30	35	1	..	1	7	7	14
Fourth Class—First attack or not, but of more than 12 months on admission ..	2	15	17	3	..	3	..	..	..	3	10	13
Fifth Class—Congenital ..	2	..	2	..	..	..	..	..	..	..	..	..
Unknown ..	14	..	14	2	..	2	..	..	..	1	..	1
Total ..	167	143	310	85	72	157	2	1	3	45	76	121

TABLE VIII.—Shewing in quinquennial periods the ages of those admitted, recovered and died during the year 1917-18 and those remaining on 31st March, 1918.

Ages.	Admissions.			Recoveries.			Deaths.			Patients Resident 31st March, 1918.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
From 5 to 10 yrs.	..	..	..	..	..	..	..	..	..	..	..	..
“ 10 to 15 “	3	2	5	1	..	1	..	1	1	2	..	2
“ 15 to 20 “	5	12	17	4	9	13	..	3	3	8	12	20
“ 20 to 25 “	39	21	60	81	13	34	3	5	8	43	33	76
“ 25 to 30 “	38	29	67	19	13	32	4	9	13	87	54	141
“ 30 to 35 “	20	22	42	16	8	24	6	7	13	94	76	170
“ 35 to 40 “	14	20	34	6	9	15	5	15	20	104	96	200
“ 40 to 45 “	11	17	28	4	9	13	9	9	18	86	111	197
“ 45 to 50 “	16	12	28	4	7	11	6	8	14	89	88	177
“ 50 to 55 “	9	2	11	4	2	6	3	7	10	64	59	123
“ 55 to 60 “	4	1	5	3	..	3	1	4	5	41	45	86
“ 60 to 65 “	4	2	6	2	1	3	1	4	5	36	37	73
“ 65 to 70 “	1	1	2	..	1	1	2	2	4	20	28	48
“ 70 to 75 “	1	1	2	..	..	..	1	1	2	9	7	16
“ 75 to 80 “	1	1	2	1	..	1	3	1	4	6	9	15
“ 80 to 85 “	1	..	1	..	..	..	1	..	1	3	2	5
“ 85 to 90 “	..	..	..	..	..	..	..	..	..	..	2	2
“ 90 to 95 “	..	..	..	..	..	..	..	..	..	..	..	..
Unknown	..	..	..	..	..	..	..	..	..	..	..	..
Infant born	..	..	..	..	..	..	..	..	..	..	..	..
Totals	167	143	310	85	72	157	45	76	121	692	659	1,351
Mean Age	33.47	32.68	33.7	31.72	31.97	31.84	43.97	40.21	42.9	41.47	42.99	42.23

TABLE IX.—Shewing the condition as to Marriage in the Admissions, Recoveries and Deaths during the year ended 31st March, 1918.

Condition in reference to Marriage			Admissions.			Recoveries.			Deaths.		
			M.	F.	T.	M.	F.	T.	M.	F.	T.
Single	..	..	120	97	217	66	50	116	23	46	69
Married	..	..	39	39	78	17	16	33	14	23	37
Widowed	..	..	7	6	13	2	5	7	5	4	9
Unknown	..	..	1	1	2	..	..	..	3	3	6
Divorced	..	..	..	..	..	..	1	1	..	..	..
Total	..	..	167	143	310	85	72	157	45	76	121



TABLE X.—Showing the probable causes of insanity in the patients admitted during the year ended 31st March, 1918.

[illegible]

TABLE XI.—Shewing the form of mental disorder in the Admissions, Recoveries and Deaths during the year and the form of mental disorder of the inmates on 31st March, 1918.

Form of Mental Disorder.	Admissions.			Recoveries.			Deaths.			Remaining in Asylum.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Congenital or Infantile mental deficiency—												
(a) with Epilepsy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
(b) without Epilepsy .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Epilepsy—Acquired .. ..	13	2	15	4	1	5	7	7	14	55	32	87
General Paralysis of the Insane ..	1	..	1	..	..	..	..	1	1	3	..	3
Mania—												
Acute .. ..	71	69	140	42	40	82	26	37	63	99	103	202
Chronic .. ..	15	16	31	7	25	32	4	8	12	296	233	529
Recurrent .. ..	45	32	77	30	..	30	2	5	7	74	31	105
a Potu .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal .. ..	..	3	3	..	1	1	..	3	3	..	3	3
Senile .. ..	12	1	13	..	1	1	..	..	..	32	12	44
Melancholia—												
Acute .. ..	7	8	15	2	1	3	1	4	5	6	13	19
Chronic .. ..	..	..	..	..	..	..	..	..	..	5	10	15
Recurrent .. ..	..	..	..	..	1	1	..	2	2	..	12	12
Puerperal .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Senile .. ..	..	..	..	..	..	..	..	..	..	1	..	1
Dementia—												
Primary .. ..	3	6	9	..	..	..	2	5	7	9	6	15
Secondary .. ..	..	2	2	..	2	2	..	..	..	..	204	204
Senile .. ..	..	4	4	..	..	..	3	4	7	112	..	112
Organic ( <i>i.e.</i> , from tumours, coarse brain lesions, etc.) .. ..	..	..	..	..	..	..	..	..	..	..	..	..
	167	143	310	85	72	157	45	76	121	692	659	1,351

TABLE XII.—Shewing the previous occupations of patients admitted during the year, 1917-1918.

## Males.

Occupation.	No.	Occupation.	No.
Labourers .. ..	67	Cigar Makers .. ..	2
Coachmen .. ..	2	Basket Maker .. ..	1
Carpenters .. ..	7	Constables .. ..	4
Mechanics .. ..	3	Ex-Soldiers .. ..	6
Bakers .. ..	4	Blacksmith .. ..	1
Bookbinders .. ..	1	Clerks .. ..	7
Vagrants .. ..	1	Saddlers .. ..	1
Shopman .. ..	1	Cultivators .. ..	20
Shopkeepers .. ..	2	Cook .. ..	1
Runners .. ..	1	Goldsmith .. ..	1
Dentist .. ..	1	Potter .. ..	1
Coopers .. ..	1	Tanner .. ..	1
Tailors .. ..	5	Insurance Agent .. ..	1
Bricklayers .. ..	1	Schoolboys .. ..	2
Teacher .. ..	1	Bartender .. ..	1
Clergyman .. ..	1	Salesman .. ..	1
Masons .. ..	3	Ex-bailiff .. ..	1
Produce Dealers .. ..	2	Servant .. ..	1
Contingent Soldiers .. ..	5	Fireman .. ..	1
Merchants .. ..	2		
Barbers .. ..	1		
Gardeners .. ..	1		
			167



TABLE XII.—*continued.*  
*Females.*

Occupation.	No.	Occupation.	No.
Labourers .. ..	86	None .. ..	2
Dressmakers .. ..	10	Schoolmistress .. ..	2
Washerwomen .. ..	3	Higglers .. ..	4
Not Known .. ..	1	Typists .. ..	1
Domestic Servants .. ..	25	Housekeepers .. ..	4
Cultivators .. ..	2		
Vagrant .. ..	1		
Cooks .. ..	2		145

TABLE XIII.—Showing the Physical condition of patients admitted in 1917-1918.

	Males.	Females.	Total.
In good bodily health and condition ..	73	6	79
In fair bodily health and condition ..	66	59	125
In poor, feeble, very feeble, bad and exhausted condition ..	28	77	105
Indifferent .. ..	..	1	1
Total .. ..	167	143	310

## FINANCIAL STATEMENT.

TABLE XIV.—Cost of maintenance for the year 1917-1918.

	£	s.	d.
Salaries .. ..	2,294	4	9
Wages .. ..	4,701	2	8
Religious Services .. ..	59	6	6
Provisions .. ..	14,731	7	3 $\frac{1}{4}$
Necessaries .. ..	1,269	4	8
Clothing and Bedding .. ..	3,014	12	11
Equipment .. ..	235	16	1
Furniture .. ..	58	14	0
Wine and Spirits .. ..	43	12	6
Surgery and Dispensary .. ..	589	9	3
Funeral expenses .. ..	96	7	6
Removals .. ..	35	14	10
Tenants Repairs .. ..	148	11	7
Farm and Grounds .. ..	80	11	1
Miscellaneous .. ..	163	1	10 $\frac{1}{2}$
Telephones .. ..	24	3	0
Scavengery .. ..	4	16	0
Lighting .. ..	421	1	5
Conveyance of Lunatics .. ..	444	12	5
	28,416	10	3 $\frac{3}{4}$

## LESS RE-IMBURSEMENTS.

	£	s.	d.
Contributing Patients, &c. .. ..	1,291	16	10
Immigration Fund (Law 31 of 1910) .. ..	199	13	7
Parochial Poor Rates (Law 26 of 1914) .. ..	11,258	6	5
Net cost to General Revenue .. ..			15,666 13 5 $\frac{3}{4}$

TABLE XV.—Law 26 of 1914.

	Law 26 of 1914.			Amount for	Law 26 of 1914.			Amount for
	No. of Patients, 1916-17.				No. of Patients, 1917-18.			
	Males	Fe- males.	Total.		1916-17.	Males	Fe- males.	
Kingston ..	170	175	345	£ s. d. 699 13 1	180	160	340	£ s. d. 790 18 4
St. Andrew ..	60	60	120	632 3 6	60	57	118	714 12 8
St. Thomas ..	24	40	64	471 2 10	17	39	56	532 11 11
Portland ..	28	34	62	591 5 10	23	30	53	668 8 4
St. Mary ..	45	38	83	873 19 0	47	47	94	987 18 11
St. Ann ..	43	43	86	846 6 9	38	43	81	956 14 8
Trelawny ..	20	31	51	424 16 4	19	25	44	480 4 7
St. James ..	42	44	86	495 13 0	35	38	73	560 6 0
Hanover ..	14	26	40	448 8 1	14	27	41	506 17 10
Westmoreland ..	60	58	118	796 1 9	50	55	105	899 18 6
St. Elizabeth ..	67	59	126	942 15 2	57	57	114	1,065 14 7
Manchester ..	58	46	104	780 19 5	48	43	91	882 16 9
Clarendon ..	54	43	97	885 8 7	51	44	95	1,000 18 5
St. Catherine ..	114	92	206	1,055 8 3	97	96	193	1,193 1 6
Port Royal ..	1	..	1	15 3 9	1	..	1	17 3 5
	800	789	1,589	9,959 5 4	738	761	1,499	11,258 6 5

TABLE XVI.—Statement respecting Minor Funds of the Jamaica Lunatic Asylum to 31st March, 1918.

## 1.—SERVANTS' FINE FUND.

				£ s. d.
Balance on 31st March, 1917 ..	..	..	..	235 16 9 <sup>3</sup> / <sub>4</sub>
Receipts in 1917-18 ..	..	..	..	13 2 5
				<hr/>
				248 19 2 <sup>3</sup> / <sub>4</sub>
Expenditure 1917-18 ..	..	..	..	8 13 0
				<hr/>
Amount at credit 31st March, 1918 ..	..	..	..	240 6 2 <sup>3</sup> / <sub>4</sub>

## 2.—PATIENTS' FUND.

Balance on 31 March, 1917 ..	..	..	..	1,182 1 4 <sup>1</sup> / <sub>4</sub>
Receipts in 1917-18 ..	..	..	..	123 6 6 <sup>1</sup> / <sub>4</sub>
				<hr/>
				1,305 7 10 <sup>1</sup> / <sub>2</sub>
Expenditure during 1917-18 ..	..	..	..	80 17 2 <sup>1</sup> / <sub>2</sub>
				<hr/>
Amount at Credit 31st March, 1918 ..	..	..	..	1,224 10 8

## 3.—O'LOUGHLIN'S FUND.

Balance on 31st March, 1917 ..	..	..	..	466 16 11
Receipts in 1917-18 ..	..	..	..	15 3 9
				<hr/>
				482 0 8
Expenditure during 1917-18 ..	..	..	..	35 12 9
				<hr/>
Amount at credit 31st March, 1918 ..	..	..	..	446 7 11



TABLE NO. XVII.—Shewing the total number of patients under treatment from 1882-83 to 1917-1918; the Total Cost; the Re-imbursements-in-Aid of Expenses incurred by the Government; the sources from which they are derived; and the Cost of Lunatic Asylum to General Revenue.

Years.	Total number of Patients under treatment.	Total Cost.	REIMBURSEMENTS-IN-AID.				Net Cost of the Lunatic Asylum to General Revenue.
			Contributing Patients, &c.	Immigration Department.	Parochial Poor Rate.	Total Reimbursements-in-Aid.	
1882-83	512	£7,061 16 9½	£189 14 5	None.	£4,643 8 8	£4,833 3 1	£2,228 13 8½
1883-84	505	6,935 14 2½	208 6 2	"	5,203 10 11	5,411 17 1	1,523 17 1½
1884-85	513	6,871 12 6	252 13 2	"	4,879 16 0	5,132 9 2	1,739 3 4
1885-86	531	7,027 7 3	376 6 9	"	4,677 15 5	5,054 2 2	1,973 5 1
1886-87	530	7,067 10 4½	415 15 7	"	4,971 6 3	5,387 1 10	1,680 8 6½
1887-88	541	7,710 5 6	365 4 7	"	5,587 15 9	5,953 0 4	1,757 5 2
1888-89	584	8,781 14 0	391 0 6	"	6,677 13 2	7,068 13 8	1,713 0 4
1889-90 (6 months)	541	4,755 14 0	151 13 5	"	3,796 11 11	3,948 5 4	807 8 8
1890-91	648	10,093 10 7½	301 10 0	"	8,208 4 11	8,509 14 11	1,583 15 8½
1891-92	704	11,578 17 2½	471 6 10	"	9,276 3 2¼	9,747 10 0¾	1,831 7 1¼
1892-93	702	11,453 1 3¾	532 6 0	"	9,369 19 4	9,902 5 4	1,550 15 11¾
1893-94	729	11,280 18 1	492 16 4	"	9,197 13 9	9,690 10 1	1,590 8 0
1894-95	741	11,648 15 6½	384 2 8	"	9,457 16 2½	9,841 18 10½	1,806 16 8
1895-96	795	11,867 3 1¾	418 13 6	"	9,941 19 0	10,360 12 6	1,506 10 7¾
1896-97	851	12,901 18 4¼	458 15 2	"	10,932 11 0	11,391 6 2	1,510 12 2¼
1897-98	926	14,061 12 9	532 19 8	"	11,772 1 4	12,305 1 0	1,756 11 9
1898-99	953	13,651 4 1	359 10 8	"	11,767 0 9	12,126 11 5	1,524 12 8
1899-1900	956	13,559 10 1	454 9 1	"	11,514 19 3	11,969 8 4	1,590 1 9
1900-1901	1,019	14,445 3 2½	525 8 5	"	12,333 1 8½	12,858 10 1½	1,586 13 1
1901-1902	1,050	14,759 17 8	547 3 10½	"	12,468 15 9¼	13,015 19 7¾	1,743 18 0¼
1902-1903	1,089	15,029 0 6	517 18 1½	"	13,101 14 3½	13,619 12 5	1,409 8 1
1903-1904	1,165	16,017 7 10	406 6 2	"	13,926 12 3½	14,342 18 5½	1,674 9 4½
1904-1905	1,240	16,007 2 0	449 9 2	"	13,843 10 0¾	14,292 19 2¾	1,713 6 0¼
1905-1906	1,264	16,852 9 7½	631 9 11½	"	14,396 14 5	15,028 14 4½	1,823 15 3
1906-1907	1,308	16,298 17 10	654 4 3½	"	14,246 2 7	14,900 6 10½	1,398 10 11
1907-1908	1,285	17,078 8 3	474 1 3	"	15,304 11 4½	15,778 12 7½	1,299 15 7½
1908-1909	1,269	17,786 8 11	633 5 10½	"	15,828 13 8½	16,461 19 7	1,324 9 4
1909-1910	1,320	17,453 7 7¾	459 16 1	"	15,934 10 4¼	16,394 6 5½	1,059 1 2½
1910-1911	1,409	19,131 15 7	676 7 10	"	16,540 0 3¼	17,263 3 6½	1,868 12 0½
1911-1912	1,439	17,797 1 2	735 0 8	£46 15 5¼	15,722 17 11	16,589 9 7¾	1,207 11 6¼*
1912-1913	1,548	18,414 4 1	889 13 3	131 11 0¾	8,237 10 8	9,321 15 8½	9,092 8 4½*
1913-1914	1,634	19,613 14 8¼	917 4 0	194 11 9½	8,837 13 9½	9,940 15 6½	9,672 19 1½*
1914-1915	1,670	20,336 18 10	961 17 11	185 17 9¼	8,660 4 9½	9,826 18 1 ½	10,510 0 8¼*
1915-1916	1,733	22,946 9 6	1,130 19 0½	204 15 5¼	8,660 4 9½	10,017 5 6½	12,929 3 11½*
1916-1917	1,730	23,787 12 4	1,098 9 0	226 1 8½	9,959 5 4	11,249 13 1 ½	12,537 19 2¼*
1917-1918	1,637	28,416 10 3¾	1,291 16 10	199 13 7	11,258 6 5	12,749 16 10	15,666 13 5¾
..	..	510,480 15 9½	19,767 16 3	1,380 5 7½	371,136 17 4¾	392,286 9 3	118,193 9 9

\* The increase during these years is due to General Revenue being charged with half of the cost of maintenance of parochial patients, hitherto borne by the parishes concerned.

TABLE No. XVIII.—A Return shewing the General Financial and other Operations of the Lunatic Asylum from the Year 1874-75 to the Year 1917-1918.

Year.	Daily Average Number.	Salaries. and Religious Services.	Wages.	Provisions.	Necessaries.	Clothing, Furniture and Bedding.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1874-75	324.43	1,412 2 10	879 15 7½	3,037 14 1½	139 5 0	487 0 10
1875-76	324.21	1,553 13 10	923 4 10½	2,910 11 7¼	116 13 8¾	387 12 3
1876-77	342.52	1,660 4 11	868 8 2	2,832 18 11	134 15 11½	347 12 11½
1877-78	361.57	1,705 3 10	851 7 0½	2,959 18 10	161 10 6	379 8 6½
1878-79	364.06	1,853 6 4	805 8 10½	3,167 9 11½	224 0 10	333 12 2
1879-80	381.25	1,782 18 2	888 11 2	3,161 17 4	176 4 2	328 10 9½
1880-81	368.48	1,771 16 6	884 1 3	3,272 19 3½	218 3 2	289 10 3
1881-82	358.67	1,784 8 0	861 12 11	2,963 9 9	231 5 4	303 14 5
1882-83	364.06	1,829 3 8	922 2 5	3,152 13 8½	220 19 7	322 0 6½
1883-84	396.05	1,708 12 10	932 15 5½	3,203 7 0	174 4 7	372 11 9½
1884-85	399.98	1,792 10 10	936 2 3½	3,079 11 8	166 7 0	387 4 4
1885-86	382.09	1,843 11 0	923 0 0	3,150 1 10½	176 4 4	345 9 6
1886-87	407.58	1,556 16 7	933 13 2	3,416 13 5	216 19 8	421 2 3
1887-88	398.00	1,533 14 7	994 18 7	3,741 6 1½	270 19 10	408 6 3
1888-89	438.24	1,783 9 9	1,161 7 10	4,280 19 5	358 0 0	438 3 2
1889-90 (6 mons.)	465.17	943 10 10	579 11 11	2,351 14 0	190 8 7	209 9 6
1890-91	496.16	1,918 8 6	1,268 15 0	5,102 14 2	403 6 6	433 4 11½
1891-92	543.93	1,934 9 8	1,462 14 6½	6,035 16 4	424 12 8½	685 7 9
1892-93	558.57	1,969 0 0	1,461 6 9½	5,421 17 7¼	514 18 2	691 17 8½
1893-94	571.98	2,239 1 4	1,509 19 3	5,299 17 4½	494 0 1	599 5 11½
1894-95	592.72	2,394 17 3	2,259 5 2	4,565 11 10½	529 13 7	667 8 10¼
1895-96	636.78	2,357 1 0	2,328 16 7	4,772 11 10¼	499 1 6	625 2 5
1896-97	694.15	2,519 17 9	2,410 18 3	5,336 10 2	545 9 2¾	803 18 8½
1897-98	759.70	2,554 1 11	2,838 16 10	5,470 9 11	615 17 4¼	993 2 4½
1898-99	774.96	2,586 1 2	3,175 7 6	5,342 10 9¾	529 7 0¾	924 14 4½
1899-1900	789.03	2,441 4 10	3,202 3 5	5,367 9 11	581 0 11	977 9 3½
1900-1901	844.32	2,564 0 11	3,198 9 11	5,807 12 5½	781 1 0½	992 2 6½
1901-1902	862.68	2,438 8 6	3,266 7 4	6,007 9 7½	799 8 4½	1,197 6 1¼
1902-1903	915.42	2,486 19 2	3,367 2 11	6,113 5 10¼	799 5 2	1,099 16 1¾
1903-1904	972.20	2,391 1 10	3,419 12 9	6,880 5 2¾	884 2 7	1,408 11 11
1904-1905	1022.26	2,142 4 10	3,470 1 11	7,618 9 3	882 7 4	1,069 3 9
1905-1906	1048.56	2,114 14 6	3,543 15 6	8,342 0 8½	979 19 10½	797 11 10
1906-1907	1048.74	2,230 17 7	3,672 11 10	7,535 11 0	994 15 4½	1,023 19 0
1907-1908	1033.61	2,302 16 7	3,784 15 8	8,084 9 1	305 12 9	1,525 9 7
1908-1909	1050.02	2,376 6 3	3,825 10 3	8,874 4 2	426 3 4	1,212 8 5
1909-1910	1081.00	2,432 0 0	3,834 1 9	8,616 8 1½	460 4 6	..
1910-1911	1137.15	2,451 6 5	3,944 3 1	9,364 13 9	369 15 9	..
1911-1912	1183.81	2,403 14 9	4,001 13 7	8,422 13 7	392 6 0	..
1912-1913	1271.94	2,449 3 2	4,048 7 9	8,445 0 10	571 2 0	..
1913-1914	1323.34	2,579 14 0	4,087 2 11	9,404 16 11¾	620 18 9	..
1914-1915	1386.57	2,619 0 7	4,281 11 10	9,581 1 0	1,052 10 9	..
1915-1916	1426.98	2,584 18 11	4,571 13 3	10,768 1 10	1,276 17 3	..
1916-1917	1390.76	2,521 4 2	4,794 1 7	11,093 5 6½	1,116 2 5	..
1917-1918	1329.99	2,353 11 3	4,701 2 8	14,731 7 3¼	1,269 4 8	..



TABLE No. XVIII., *continued.*

Year	Wine, Spirits and Beer.	Surgery and Dispensary.	Funeral Ex- penses.	Tenants' Re- pairs.	Farm and Garden.	Miscellaneous and Telephone.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1874-75	90 0 3½	85 19 1½	32 18 6	136 16 7	265 0 6	99 5 7
1875-76	74 6 6	124 6 11	44 7 0	135 13 9	297 14 2½	99 10 5½
1876-77	59 12 6	65 10 6½	36 19 4½	129 13 11½	251 18 2	68 3 4½
1877-78	34 2 9	99 9 7½	41 9 9½	134 15 6½	195 3 1½	192 16 6
1878-79	30 5 9	49 4 7	38 10 1	104 4 8	151 6 4	175 18 10
1879-80	34 11 0	76 13 2	50 1 5	122 3 0½	218 14 5½	222 13 4
1880-81	57 10 0	65 13 2½	110 19 5	122 18 0	211 15 5½	215 12 9
1881-82	48 18 6	49 10 7½	71 4 11	117 0 1½	145 15 1	243 3 3
1882-83	30 7 0	32 5 1½	123 12 6	11 1 8	87 1 9½	199 18 5½
1883-84	61 4 0	68 11 8	78 3 3	129 10 9½	97 8 3½	84 11 6½
1884-85	46 18 0	25 18 4	84 10 8½	112 3 7½	122 7 10	98 8 5½
1885-86	56 16 0	30 18 11	108 3 8	125 9 3	132 0 7	112 6 7½
1886-87	56 0 0	68 10 4	52 5 10	120 12 1	122 3 10½	71 12 2
1887-88	65 13 4	67 2 7½	61 5 1½	282 0 2½	151 5 11	109 10 2
1888-89	68 14 0	104 15 7	78 5 9	151 5 8	134 8 4	206 19 9
1889-90 (6 mons.)	32 14 6	101 7 0	41 1 5	105 1 0	88 5 11	88 16 2
1890-91	40 12 0	168 9 10	66 16 0	176 3 3½	160 3 0	190 11 7½
1891-92	45 13 6	141 18 3	78 8 3	190 6 2	171 9 4	175 12 2½
1892-93	41 12 6	207 7 7	71 2 8	233 0 6½	177 14 11	187 6 4
1893-94	37 6 6	184 10 4	79 7 0	191 16 0½	177 14 3	194 12 8½
1894-95	37 2 8	195 3 4	68 5 11	239 19 2½	194 10 8	234 16 1½
1895-96	39 7 9	197 17 10	47 11 8	238 19 3	197 18 11	235 4 9½
1896-97	33 7 6	194 1 4	50 10 2½	259 7 7	219 4 9	242 16 10½
1897-98	51 0 6	238 4 2½	64 2 11	289 1 8	262 7 3¼	366 2 3½
1898-99	31 10 2½	253 15 2½	68 2 4½	164 17 3½	153 12 11½	215 13 5¼
1899-1900	35 0 3	218 16 1	72 12 6½	144 19 2½	137 17 9	251 17 1½
1900-1901	39 1 6	133 0 2	45 0 9	163 15 7½	149 17 7	265 3 6½
1901-1902	43 0 6	210 15 0	61 17 4	147 17 7½	145 14 8¾	254 2 4
1902-1903	44 13 0	220 11 10	46 2 5	171 10 1¾	151 0 4½	262 12 1¾
1903-1904	60 16 0	210 18 3	79 18 4	187 6 10	153 2 4½	266 15 0¾
1904-1905	42 6 6	180 14 6	73 2 2	138 5 6	88 1 2	212 15 3
1905-1906	24 18 3	271 2 6	73 5 7	180 2 5	81 17 3	217 14 1½
1906-1907	22 8 6	318 1 4	64 19 0	162 14 0	33 9 0½	198 13 5
1907-1908	36 19 6	288 18 11½	72 19 6	134 14 0	40 0 6½	362 2 11
1908-1909	23 1 3	264 14 6	72 8 0	173 3 5	27 4 4	184 1 6
1909-1910	55 19 3	255 10 11	70 14 0	80 17 0	96 11 9	213 18 3½
1910-1911	53 8 9	278 13 2	62 16 0	143 0 11	104 2 3	266 17 1
1911-1912	30 8 5	298 8 4	71 5 3	85 5 2	89 15 6	177 14 11
1912-1913	29 19 11	298 6 4	67 16 10	85 13 7	94 1 4	168 6 6¼
1913-1914	35 6 10	341 2 6	100 7 8	127 17 6	88 18 5	217 3 2
1914-1915	24 11 8	273 17 9	76 15 9	91 6 4	90 0 9	124 5 5
1915-1916	16 15 0	354 8 11	87 19 0	128 2 5	67 13 1	113 4 5½
1916-1917	39 18 8	524 17 6	126 17 0	143 1 3	50 11 3	150 17 11
1917-1918	43 12 6	589 9 3	96 7 6	148 11 7	80 11 1	187 4 10

TABLE No. XVIII., continued

Year.	Removal of Lunatics.	Scavengery.	Furniture Public Departments.	Total Cost.	Amount of Reimbursements from contributing and Immigration Fund Patients.	Cost exclusive of reimbursements in previous column.	Weekly Rate per Head.	Admitted during the Year.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Males.	Females.	Total.
1874-75	16 19 0	..	..	6,682 18 0	888 1 6	5,844 16 6	0 6 10 $\frac{3}{4}$	46	38	84
1875-76	4 0 0	..	..	6,671 15 1 $\frac{1}{2}$	752 1 6	5,919 13 7 $\frac{1}{2}$	0 6 11 $\frac{3}{4}$	58	43	101
1876-77	17 12 8	..	..	6,473 11 5 $\frac{1}{2}$	827 5 0	5,646 6 5 $\frac{1}{2}$	0 6 3 $\frac{3}{4}$	69	43	112
1877-78	19 0 3	..	..	6,774 6 4 $\frac{1}{2}$	764 18 10	6,009 7 6 $\frac{1}{2}$	0 6 4 $\frac{1}{4}$	54	49	103
1878-79	11 0 6	..	..	7,004 8 11	159 12 10	6,844 16 1	0 7 2 $\frac{1}{4}$	53	51	104
1879-80	14 2 10	..	..	7,007 0 10 $\frac{1}{2}$	168 7 8	6,908 13 2 $\frac{1}{2}$	0 6 11	56	59	115
1880-81	30 9 8	..	..	7,251 9 2	191 7 2	7,060 2 0	0 7 4	65	42	107
1881-82	26 9 6	..	..	6,846 13 2 $\frac{1}{2}$	134 16 1	6,711 17 1 $\frac{1}{2}$	0 7 2	42	56	98
1882-83	25 10 4	..	..	7,061 16 9 $\frac{1}{2}$	189 14 5	6,872 2 4 $\frac{1}{2}$	0 7 2 $\frac{3}{4}$	73	68	141
1883-84	24 13 0	..	..	6,935 14 2 $\frac{1}{2}$	208 6 2	6,727 8 0 $\frac{1}{2}$	0 6 5 $\frac{1}{4}$	80	59	139
1884-85	19 10 0	..	..	6,871 12 6	252 13 2	6,618 19 4	0 6 4	56	64	120
1885-86	28 18 1	..	..	7,027 7 3	376 6 9	6,651 0 6	0 6 8	69	70	139
1886-87	30 11 0	..	..	7,067 10 4 $\frac{1}{2}$	415 15 7	6,651 14 9 $\frac{1}{2}$	0 6 3 $\frac{1}{2}$	79	62	141
1887-88	24 2 9	..	..	7,700 5 6	365 4 7	7,345 0 11	0 7 0	78	71	149
1888-89	15 4 9	..	..	8,781 14 0	391 0 6	8,390 13 6	0 7 4	92	69	161
1889-90 (6 mos)	10 9 0	..	..	4,755 14 0	151 13 5	4,604 0 7	0 7 7	39	43	82
1890-91	22 1 0	..	..	10,093 10 7 $\frac{1}{2}$	301 10 0	9,792 0 7 $\frac{1}{2}$	0 7 7	93	79	172
1891-92	25 3 6	207 5 0	..	11,578 17 2 $\frac{1}{2}$	471 6 10	11,107 10 4 $\frac{1}{2}$	0 7 8 $\frac{3}{4}$	80	106	186
1892-93	19 3 6	195 12 8	261 0 4	11,453 1 3 $\frac{3}{4}$	532 6 0	10,920 15 3 $\frac{3}{4}$	0 7 7	78	80	158
1893-94	8 7 9	192 19 0	62 0 6	11,280 18 1	492 16 4	10,788 1 9	0 7 2	75	78	153
1894-95	19 6 6	193 9 4 $\frac{1}{2}$	49 5 0	11,648 15 6 $\frac{1}{2}$	384 2 8	11,264 12 10 $\frac{1}{2}$	0 7 3 $\frac{1}{2}$	84	85	169
1895-96	27 7 6	192 0 2	47 8 11	11,867 3 1 $\frac{1}{4}$	418 13 6	11,448 9 7 $\frac{3}{4}$	0 6 10 $\frac{1}{2}$	90	84	174
1896-97	27 12 0	208 4 0	50 0 0	12,901 18 4 $\frac{1}{4}$	458 15 2	12,443 3 2 $\frac{1}{2}$	0 6 10 $\frac{1}{2}$	81	106	187
1897-98	19 0 3	199 11 1	99 14 2	14,061 12 9	532 18 9	13,528 13 1	0 6 10	109	95	204
1898-99	39 10 9	126 0 11	..	13,651 4 1	359 10 8	13,291 13 5	0 6 7	88	80	168
1899-1900	24 13 6	104 5 3	..	13,559 10 1	454 9 1	1,305 1 0	0 6 4	96	93	189
1900-1901	26 4 3	116 12 7	163 0 4	14,445 3 2 $\frac{1}{2}$	525 8 5	13,919 14 9 $\frac{1}{2}$	0 6 4	104	96	200
1901-1902	29 5 9	115 12 6	42 12 0	14,759 17 8	547 3 10 $\frac{1}{2}$	14,212 13 9 $\frac{1}{2}$	0 6 4	99	83	182
1902-1903	22 6 9	111 10 5	94 12 11	15,029 0 6	517 18 1 $\frac{1}{2}$	14,511 2 4 $\frac{1}{2}$	0 6 1	118	108	226
1903-1904	17 5 9	22 0 5	35 10 6	16,017 7 10	406 6 2	15,611 1 8	0 6 2	105	101	206
1904-1905	19 18 0	17 17 1	50 18 0	16,006 5 3	449 9 2	15,557 12 10	0 5 10	124	116	240
1905-1906	30 11 3	3 18 0	190 17 10	16,852 9 7 $\frac{1}{2}$	631 19 11 $\frac{1}{2}$	16,220 9 8	0 5 11	134	96	230
1906-1907	35 18 3	..	4 19 6	16,298 17 10	654 4 3 $\frac{1}{2}$	15,644 13 0 $\frac{1}{2}$	0 5 10	109	125	234
1907-1908	30 12 9	2 16 3	..	17,078 8 3	474 1 3	15,604 7 0	0 6 3 $\frac{1}{4}$	148	131	279
1908-1909	22 11 0	1 11 8	..	17,786 8 11	633 5 10 $\frac{1}{2}$	17,153 3 0 $\frac{1}{2}$	0 6 5	114	123	237
1909-1 10	22 2 3	0 12 6	70 2 1	17,453 7 7 $\frac{3}{4}$	459 16 1	16,993 11 6 $\frac{3}{4}$	0 6 1 $\frac{1}{2}$	139	123	262
1910-1911	39 6 4	..	68 15 1	19,131 15 7	723 3 3 $\frac{1}{4}$	18,408 12 3 $\frac{3}{4}$	0 6 0	164	160	324
1911-1912	31 15 10	1 18 3	133 7 8	17,797 1 2	866 11 8 $\frac{3}{4}$	16,930 9 5 $\frac{1}{4}$	0 5 5 $\frac{3}{4}$	138	130	268
1912-1913	30 1 7	5 14 2	213 12 4	18,414 4 1	889 13 3	17,524 10 10	0 5 4	160	189	349
1913-1914	49 0 11	3 6 11	47 6 1	19,613 14 8 $\frac{1}{4}$	1103 1 9 $\frac{1}{4}$	18,510 12 11	0 5 4 $\frac{3}{4}$	162	156	318
1914-1915	37 16 8	0 16 0	64 18 10	20,336 18 10	1166 13 4 $\frac{1}{4}$	19,170 5 5 $\frac{3}{4}$	..	158	171	329
1915-1916	40 0 7	1 7 0	51 13 5	22,946 9 6	1357 0 9	21,589 8 9	..	192	141	333
1916-1917	39 12 5	0 8 0	48 12 3	24,318 8 6	1290 7 9 $\frac{2}{3}$	23,028 0 8 $\frac{1}{4}$	..	155	131	286
1917-1918	35 14 10	4 16 0	58 14 0	28,416 10 3 $\frac{3}{4}$	1491 10 5	26,924 19 10 $\frac{1}{4}$	..	167	143	310

Year.	Lighting.		Clothing and bedding.		Equipment.		Conveyance of Lunatics.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
1907-1908	166	9 2	—	—	—	—	..	..
1908-1909	303	0 10	—	—	—	—	..	..
1909-1 10	311	11 8	791	1 6 $\frac{3}{4}$	141	12 0	..	..
1910-1911	463	13 4	1,261	8 8	259	9 0	..	..
1911-19 2	423	9 9	1,079	15 4	153	8 10	..	..
1912-1913	399	13 9	1,351	0 6	171	3 6	..	..
1913-1914	386	7 2	1,310	9 4	213	15 6	..	..
1914-1915	338	3 3	1,447	6 11	232	15 4	..	..
1915-1916	338	18 8	1,817	7 5	193	14 7	533	13 9
1916-1917	318	1 10	2,188	14 6	238	3 9	393	2 3
1917-1918	421	1 5	3,014	12 11	235	16 1	444	12 5



# LEPERS' HOME

Report for the year ended 31st March, 1918.

Jamaica Leper Asylum, Spanish Town, 29th May, 1918.

Hon. S.M.O., Kingston,

Sir,

I have the honour to submit my Annual Report on this Institution for the financial year ending 31st March, 1918, for the information of His Excellency the Governor.

1. *Staff*.—It gives me pleasure to report that the several duties were discharged to my satisfaction. Mr. E. A. A. Levy, the Superintendent and Miss M. McPherson the Matron, continue to render me valuable assistance in carrying out my duties.

2. *Discipline*.—Beyond trivial breaches of the rules the conduct of the inmates is good.

*Occupation*.—The Male inmates cultivate the Farm (4 acres) which yielded to the Institution for the period under review:—

Peas, 2,418 lbs.; Potatoes, 9,279 lbs.; Yams, 646, lbs.; Vegetables, 2,753 lbs., Herbs, 240 lbs. and the money paid to them for the above (under Rule 80—amounted to £111 19s. 2d. The services of those who are able and willing (Male and female) are used as labourers, gatemen, lime washers, etc., etc. The female inmates do the laundry which averages 1,350 pieces weekly. For these services they are paid weekly, averaging 30/.

*Gifts*.—I have to thank those ladies and gentlemen who have generously contributed to the pleasures of the inmates during the festive seasons.

*Buildings and Grounds*.—The buildings have been kept in fair order. The Institution kitchen was made "fly proof"—this work might be extended. The grounds are kept clean and tidy.

*Religious Ministration*.—The Anglican and Roman Catholic continue their attentions to the inmates. Revd. Canon Grange became Chaplain vice Canon Hendrik who left the Island,

I am pleased to report Miss McGlashan has been able to resume her labour of love to the inmates.

Miss Leon continues her faithful work on behalf of the Roman Catholics, and Mr. Mitchell the East Indian Catechist on behalf of the coolies.

I regret to report the death of Mr. E. Percy Fletcher of Spanish Town on 28.3.18, who for many years gave faithful service as one of the Honorary Lay Readers. Mr. W. G. Aldred of Spanish Town takes his place. The Sunday Services in the "Chapel" are regularly held by them: Messrs. F. S. Messias, W. M. Fraser, S. G. Sanguinetti and W. G. Aldred.

*Statistics*.—There were 19 admissions (2 being re-admissions) and 20 deaths. The death rate was 14.2 per cent.

The greatest Number under treatment (3.6.17) was 126.

The least number under treatment (30.1.18) was 111.

The daily average was 117, made up of 7 coolies and 110 creoles.

*Maintenance*.—£11 12s. 9d., per inmate per annum.

The daily average cost being 7d.63 per patient, an increase over last year due to the high cost of foodstuffs.

*Treatment*.—I am doing the best I can without a supply of "Anti-leprol"—Purified Chaulmoogra Oil. There is no doubt whatever, in my mind, that the persistent use of this drug has a marked influence in checking the progress of the disease. I hope it will soon be found possible to procure a liberal supply to enable me to continue this treatment which gave such excellent results.

I attach the usual statistical tables.

I have, etc.,

J. HUNTLY PECK,

Actg. Medical Attendent.

## Jamaica Leper Asylum, Spanish Town,

Table No. 1.—Return General Statistics for 1917 to 1918.

			Males.	Females.	Total.	Remarks.
Remaining in Asylum 31.3.1917	..	..	68	54	122	
Admitted during 1917 to 1918	..	..	14	5	19	
Discharged during 1917 to 1918	..	..	1	..	1	Sec. 8 Law 15 of 1896
Absconded during 1917 to 1918	..	..	5	2	7	
Died during 1917 to 1918	..	..	13	7	20	Death rate per 100 14.2
Remaining in Asylum 31.8.18	..	..	63	50	113	

TABLE No. II.—Comparative Statistics from 1st October, 1887, to 31st March, 1916.

Year.	Admissions.		Discharges.		Deaths.		Remaining at end of Year.		Death rate per 100.	Re-admission of Lepers.
	Lepers.	Non-Lepers.	Lepers.	Non-Lepers.	Lepers.	Non-Lepers.	Lepers.	Non-Lepers.		
1878-79	26	39	2	40	10	3	40	31	10.31	..
1879-80	26	43	8	31	7	..	51	33	5.	..
1880-81	39	101	16	72	11	4	63	58	6.69	..
1881-82	38	115	23	107	13	5	65	61	6.50	..
1882-83	40	85	22	96	8	3	75	47	4.38	..
1883-84	30	71	26	63	9	3	70	52	5.38	..
1884-85	33	87	18	80	14	..	71	59	5.78	..
1885-86	39	131	17	114	16	2	77	74	6.	..
1886-87	25	141	17	130	16	6	69	79	6.94	..
1887-88	32	8	..	19	23	8	78	60	16.48	..
1888-89	31	93	4	98	11	6	94	49	6.48	..
Oct. '89 to March '90	9	22	6	35	12	2	82	37	8.04	..
1890-91	34	67	15	88	15	2	86	14	7.74	..
1891-92	38	2	8	9	15	2	106	5	12.16	..
1892-93	26	1	16	4	1	..	100	2	8.27	..
1893-94	23	2	24	3	20	..	79	1	15.74	7
1894-95	26	1	12	..	18	..	76	2	16.82	14
1895-96	37	2	8	4	10	..	94	..	8.62	10
1896-97	40	2	11	2	16	1	106	..	12.5	9
1897-98	38	1	3	2	13	..	127	..	8.96	3
1898-99	20	2	8	3	20	..	118	..	13.6	5
1899-1900	27	3	3	2	20	..	122	1	13.5	6
1900-01	19	3	6	2	15	..	120	2	10.3	1
1901-02	9	1	4	..	14	2	110	2	11.4	2
1902-03	19	..	2	2	17	..	108	2	13.	3
1903-04	33	3	5	3	20	..	117	1	13.7	1
1904-05	25	..	5	..	23	..	114	1	16.1	2
1905-06	19	..	3	..	14	..	115	1	10.4	3
1906-07	14	..	1	..	15	..	113	1	11.62	1
1907-08	12	..	5	1	14	..	105	..	11.1	..
1908-99	24	..	..	1	15	..	112	1	11.6	4
1909-10	12	1	7	..	10	6	102	2	12.27	..
1910-11	24	..	6	1	15	1	103	1	12.6	4
1911-12	25	1	5	1	10	..	113	1	7.7	1
1912-13	12	2	2	1	14	..	109	2	10.9	2
1913-14	21	1	5	..	8	..	117	3	6.	..
1914-15	19	2	12	1	9	1	115	3	7.	..
1915-16	29	1	10	1	16	..	118	3	10.8	6
1916-17	20	..	8	..	11	..	119	3	7.8	2
1917-18	19	..	8	..	20	..	110	3	14.2	2



TABLE No. III.—Return of Admissions for 1917-1918.

No.	Name.	Age Years.		Form of Leprosy.	Years Afflicted.	If re-admitted.	Country.	Late Residence.	Date of Admission.
		M.	F.						
1	E. Fol. 37	..	60	A.	14	No.	Jamaica	St. Elizabeth	10.4.1917
2	E. " 38	40	..	A.	1	"	"	Manchester	19.5.1917
3	E. " 39	28	..	A.	1	"	"	Clarendon	27.5.1917
4	E. " 40	..	13	A.	1	"	"	Manchester	29.5.1917
5	E. " 41	58	..	T.	1	Yes	"	"	30.5.1917
6	E. " 42	17	..	T.	3	No.	Costa Rica	Kingston	30.5.1917
7	E. " 43	25	..	A.	3	"	India	Portland	28.7.1917
8	E. " 44	24	..	T.	2	"	Jamaica	St. Elizabeth	16.8.1917
9	E. " 45	32	..	A.	1	"	India	Portland	11.10.1917
10	E. " 46	26	..	T.	2	"	Jamaica	St. James	12.10.1917
11	E. " 47	..	42	T.	1	"	"	Kingston	20.10.1917
12	E. " 48	35	..	T.	1	"	India	St. Mary	5.11.1917
13	E. " 49	18	..	T.	1	"	Costa Rica	Trelawny	17.11.1917
14	E. " 50	28	..	A.	3	"	Jamaica	Kingston	25.12.1917
15	E. " 51	..	37	A.	11	Yes	"	Kingston	22.2.1918
16	E. " 52	..	42	A.	15	No.	"	Clarendon	2.2.1918
17	E. " 53	23	..	A.	4	"	"	St. Catherine	28.2.1918
18	E. " 54	25	..	A.	4	"	"	St. Ann	11.3.1918
19	E. " 55	20	..	A.	1	"	"	Clarendon	14.3.1918

TABLE No. IV.—Birth places of those admitted during 1917-1918.

Birthplace	Male.	Female.	Total.	Remarks.
St. Elizabeth	1	1	2	
Manchester	2	1	3	
Clarendon	2	1	3	
India	3	..	3	
Costa Rica	2	..	2	
St. James	1	..	1	
Kingston	1	2	3	
St. Catherine	1	..	1	
St. Ann	1	..	1	
	14	5	9	

TABLE No. V.—Returned of Discharged, 1917-1918.

No.	Name.	Age Years.		Date of Admission.	Date of Discharge.	Total Years Afflicted.	Form of Leprosy.	Remarks.
		M.	F.					
1	N. B.	..	12	21.2.16	24.6.17	2	A.	Absconded.
2	N. C.	23	..	16.5.15	2.7.17	3	A.	do.
3	I. S.	12	..	12.6.15	28.7.17	3	T.	do.
4	C. F.	51	..	1.3.16	6.8.17	9	A.	do.
5	R. J.	56	..	19.2.17	25.8.17	6	T.	do.
6	W. D.	50	..	4.1.1915	6.10.17	7	T.	Discharged, Sec. 8 Law 15 of 1896.
7	B. H.	35	..	5.11.1917	11.11.1917	1	T.	Absconded
8	R. M.	..	33	8.3.1905	12.2.1918	23	A.	do.

TABLE No. VI.—Birthplaces of those discharged, 1917-1918.

Birthplace.	Male.	Female.	Total.	Remarks.
India ..	2	..	2	
Trelawny ..	..	1	1	
St. Ann ..	..	1	1	
St. Catherine ..	3	..	3	
Kingston ..	1	..	1	
	6	2	8	

TABLE No. VII.—Return of Deaths for 1917-1918.

No.	Name.	Age. Years.		Country.	Date of Admission.	Date of Death.	Form o Leprosy.	Total Years. afflicted.	Cause of Death.
		M.	F.						
1	F P	36	..	Jamaica	14.1.05.	7.4.17	T.	13	Chronic Diarrhoea
2	J. H.	78	..	"	9.9. 1880	27.5.17	A.	39	Senile decay
3	S. P.	..	41	"	13.6 1916	14.6.17	A.	18	Diffuse Cellulitis
4	J. L.	..	26	"	5.4.1915	30.6.17	A.	3	Remit. Fever
5	D. P.	76	..	"	26.3 1907	3.7.17	A.	13	Senile decay
6	B. D.	..	30	"	9.10.1908	7.7.17.	T.	10	Pul. Tuber.
7	R. C.	28	..	"	27.5.1917	21.7.17	A.	1	Anaesthetic Leprosy
8	W. L.	20	..	"	11.8.1911	8.8.17	T.	12	Tubercular Leprosy
9	J. M.	21	..	"	13.10.1908	17.8 1917	T.	9	Bright's Disease
10	B. B.	..	71	Cuba	19.9.1916	29.8.17	A.	26	"
11	E. S.	..	40	Jamaica	16.1.1917	19 9.17	T.	4	"
12	R. H.	..	38	"	15.1.1916	3.10.17	T.	2	Tubercular Leprosy
13	W. D.	42	..	"	20.12.1910	24.10 17	T	13	Bright's Disease
14	J. B.	33	..	"	3.11.1914	8.11.17	T.	6	"
15	T. P.	82	..	"	3.1.1896	1.1.18	A.	36	Chronic Diarrhoea
16	F. H.	30	..	"	5.9.1916	8.1.18	T.	11	"
17	J. T.	62	..	"	5.2.1908	10.1.18	T.	11	"
18	S. C.	34	..	"	10 9.1901	15.1.18	A.	28	Remit. Feb. Chr. Diarrhoea
19	I. H.	30	..	"	23.9.1911	18.2.18	T.	8	Pul. Tuber.
20	J. H.	..	33	"	2.3.1917	29.3.18	A	4	Chr. Diarrhoea

Average longevity of the Disease in those who died.

Anaesthetic	Males	23	2-5 years
"	Females	12 $\frac{3}{4}$	"
Tubercular	Males	10 $\frac{3}{8}$	"
"	Females	5 $\frac{1}{3}$	"
General Death rate 14.2 per 100.			

TABLE No. VIII.—Return of Birthplaces of Deceased, 1917-1918.

Birthplace	Male.	Female.	Total.
St. Mary ..	..	1	1
Trelawny ..	5	..	5
Clarendon ..	3	..	3
Manchester ..	1	1	2
Portland ..	..	1	1
St. Elizabeth ..	..	1	1
Cuba ..	..	1	1
St. Catherine ..	1	..	1
St. James ..	1	1	2
Kingston ..	1	1	2
St. Andrew ..	1	..	1
	13	7	20

TABLE IX.—Chief Intercurrent Diseases treated in 1917-1918.

*Diseases of the Digestive System*—Diarrhoea, &c., continue to be the chief under this head.

*Urinary System*.—Nephritis more frequent in Tubercular cases.





